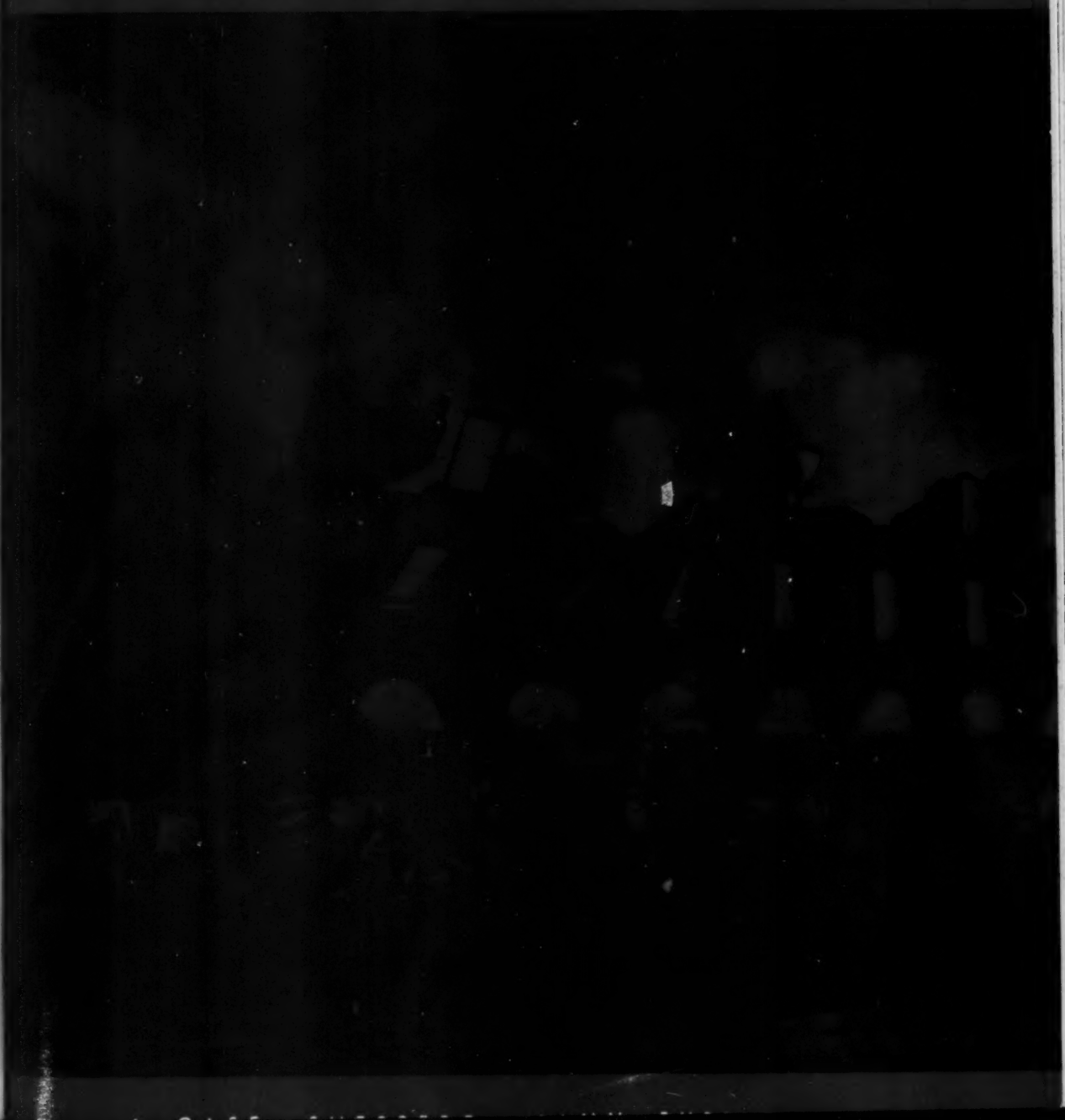
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

AUGUST, 1950



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Alert Departments from coast to coast make Federal their first choice in Signals.

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer, Fire Protection *and* Fire Service

Vol. 103 August, 1950 No. 8

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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24 West 40th Street, New York 18, N. Y.

While the outside of TWILL WEAVE builds in mechanical advantages, so also does the inside nature of the fabric make for a better hose. Comparing the two magnified views brings out most clearly a couple of the most practical features. Notice how the yarn in the single inside stitch is untwisted and the same cabled cord twisted tighter in the long outside stitch. This gives a hose with a hard yarn outside to resist wear, keeping a soft yarn inside for smooth waterway and ability to vulcanize the tube to BOTH warp and filler.

OUTSIDE

INSIDE

Over and above such basic advantages as soft flexibility, a quick dry, natural flatness with easy edge folds, TWILL WEAVE has two great and practical points of superiority. One, as can be seen in the magnified view, is the overlapping of any two adjacent stitches which pass the load, friction and wear along the same way as runners on a sled. The other is that on the outer surface a stitch is twice as long as on the inside, so that for the same weight and strength of hose twice the cotton or yarn is outside to meet wear and tear.

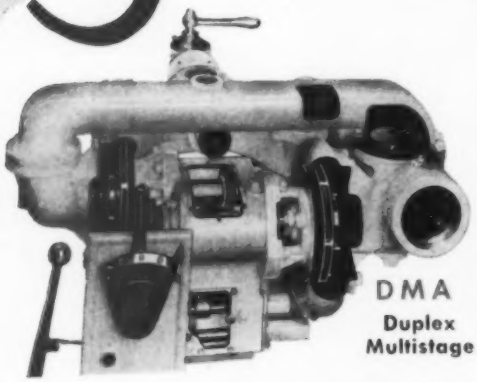
•KEYSTONE•

FULL CABLED FULL TWILL WOVEN GENUINE WAX AND PARA GUM TREATED HEAVY DUTY FIRE HOSE

FABRIC FIRE HOSE CO.

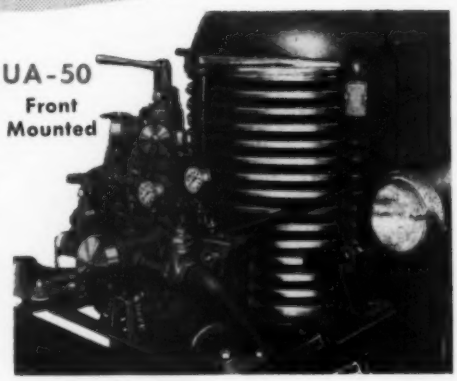
1869 SANDY HOOK, CONN. 1950

3 Great fire pumps



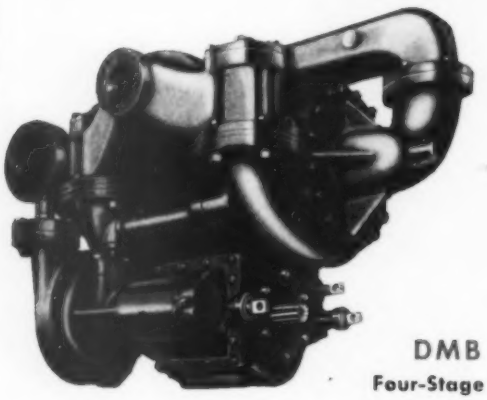
DMA
Duplex Multistage

Two independent pumps. One designed and geared to deliver large capacities and normal pressures, the other designed and geared for low capacities at high pressures — plus provision for operating both in series, with each pump driven by its own shaft, operating by its own gearing. Automatic pressure operated valves. Positive one point lubrication. Meets all Underwriters' tests for conventional capacities and pressures PLUS 400 lbs. fog gun pressure. Bulletin 8733



UA-50
Front Mounted

The latest in front mounted pumps. Completely frost proof, heavier clutch construction plus improved power take-off. Gear driven construction reduces required engine speeds. Pumps with truck in motion — important in fighting running grass and brush fires. Meets all Underwriters' tests for conventional capacities and pressures PLUS 400 lbs. fog gun pressure. Bulletin 8330.



DMB
Four-Stage

Standard Duplex Multistage Model PLUS Two Additional High Pressure Stages. Meets all Underwriters' tests for conventional capacities and pressures PLUS 850 pounds pressure for fog gun service. Changing from Standard Duplex operation to Four Stage performance is accomplished by shifting ONE gear — no mechanical clutch is used. Bulletin 8734.

American-Marsh Fire Pumps are sold only by our factory representatives, which gives you the benefit of personal contact. Our representative can work with you to provide equipment that will most satisfactorily and economically meet the needs of your fire department. When the unit is delivered to you this trained factory representative will instruct you and your men in the operation of this equipment.

Be sure to visit our booth at the IAFC Convention at San Francisco and see the cutaway models of the units shown here. Our engineers will be pleased to discuss this equipment with you.

AMERICAN-MARSH PUMPS
BATTLE CREEK MICHIGAN
U.S.A.

IN CANADA: C. E. HICKEY & SONS, LTD., HAMILTON, ONTARIO

New B.F.Goodrich Fire King fire hose 50% stronger, 12% lighter

B. F. GOODRICH presents Fire King, a new 2½" double jacket fire hose.

For years engineers have been searching for a stronger, lighter fire hose cord. A new chemically-produced fiber has now been designed—especially for fire hose. Not affected in any way by moisture, mildew, mild acids or alkalies. Used in new Fire King hose as "filler" cords—the cords that go *around* the hose and carry the load under pressure.

Stands higher pressures—In actual laboratory tests, Fire King hose—with the new cord—was found to be 50% stronger than standard hose. Every length of Fire King fire hose is tested to 600 pounds pressure.

Lighter, more flexible—Fire King cord is lighter, more flexible than ordinary fire hose cord, making hose easier to handle and coil in a small diameter. New Fire King hose is 12 to 15% lighter than standard B.F.Goodrich fire hose tested to 400 pounds pressure.

End protection—Fire King has the exclusive B. F. Goodrich end protection—an extra ply of hard woven cords extending 12" from the coupling. Adds 100% more strength to coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

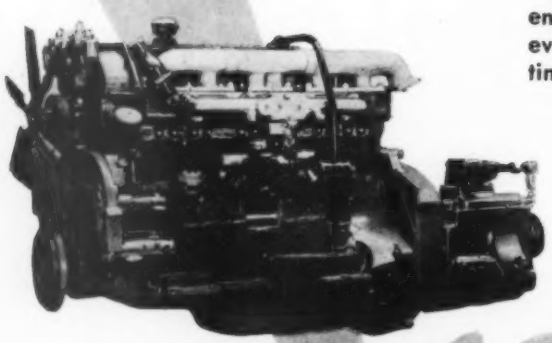
Fire King combines all the features available in the highest grade B. F. Goodrich fire hose (Hydroseal treatment, long-aging tubes, patented end protection) with a brand new feature—Fire King reinforcing cord. The result is a premium fire hose 50% stronger, 12 to 15% lighter, yet only slightly higher in cost. $1.70 per foot, double jacket, coupled. Departments looking for ways to lower hose costs by getting hose that lasts longer should write for the name of nearest BFG Fire Hose Distributor. *The B.F.Goodrich Company, Industrial Products Division, Akron, Ohio.*

Fire Hose
BY
B.F.Goodrich

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

THERE'S *Extra Value* FOR YOU . .

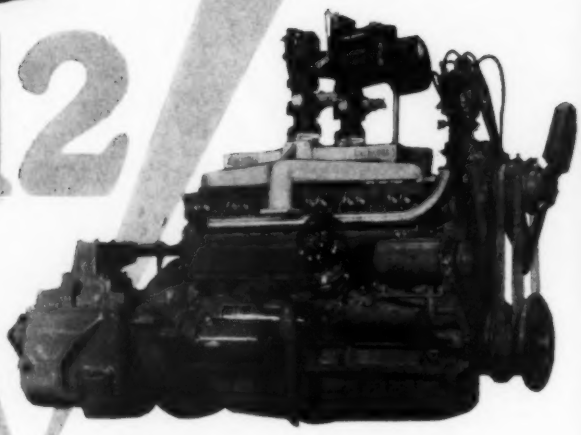
YOU Can't beat American LaFrance V-12 Engines for • EFFICIENCY • SUSTAINED POWER • RELIABILITY • EASY STARTING • LONG SERVICE LIFE



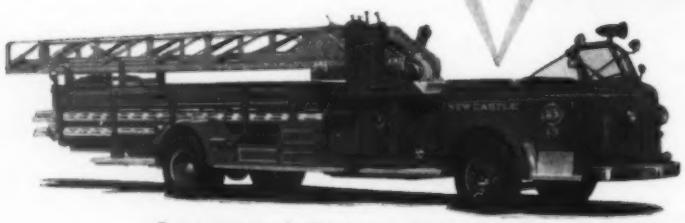
Twenty years of fire service use has proved the fundamental superiority of the V-12 engine. Easy starting and dependable in every emergency. Built for heavy duty continuous service. Periodic tests of 300 hours at full throttle, full power, prove every working part.

• 275 B.H.P. (certified) Model E engine for large capacity pumpers (1000 g.p.m., 1250 g.p.m., 1500 g.p.m.) or heavy apparatus in areas with steep hills.

12



• 215 B.H.P. (certified) Model J engine for 1000 g.p.m. pumpers. Standard in quads and service aerials. Also tractor drawn aerials and city service ladder trucks.



• American-LaFrance V-12 engines are designed, and manufactured, exclusively in our own factory. Service is always available for an American-LaFrance engine. •

AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LAFRANCE FIRE ENGINE AND FOAMITE LIMITED
TORONTO 9, ONTARIO, CANADA

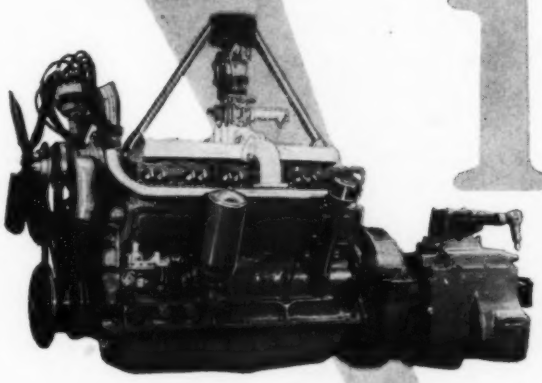
IN AMERICAN-LAFRANCE FIRE APPARATUS

The wide operating range, uniform and sustained power give fast acceleration and hill climbing ability that has no equal.

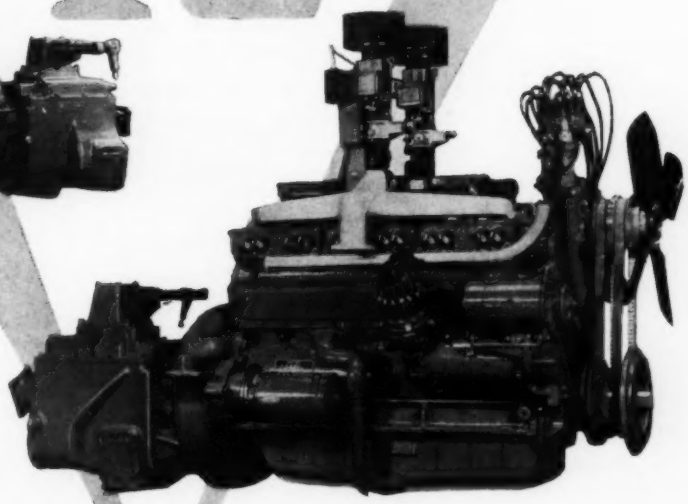
The high ratio of horsepower output per unit of displacement is one measure of the high efficiency and economy.

All American-LaFrance V-12 engines have full pressure lubrication to every moving surface. Even the cylinder walls have direct pressure oiling. No dry starts with American-LaFrance V-12 engines. All crankshafts are counterweighted and in accurate dynamic balance. All bearing surfaces are TOCCO hardened for long life.

For smoothness and powerful flexibility in operation, just drive an American-LaFrance V-12 powered fire truck. It will amaze and please you.



- 170 B.H.P. (certified) Model F engine for pumpers of 500 g.p.m. and 600 g.p.m. capacity.



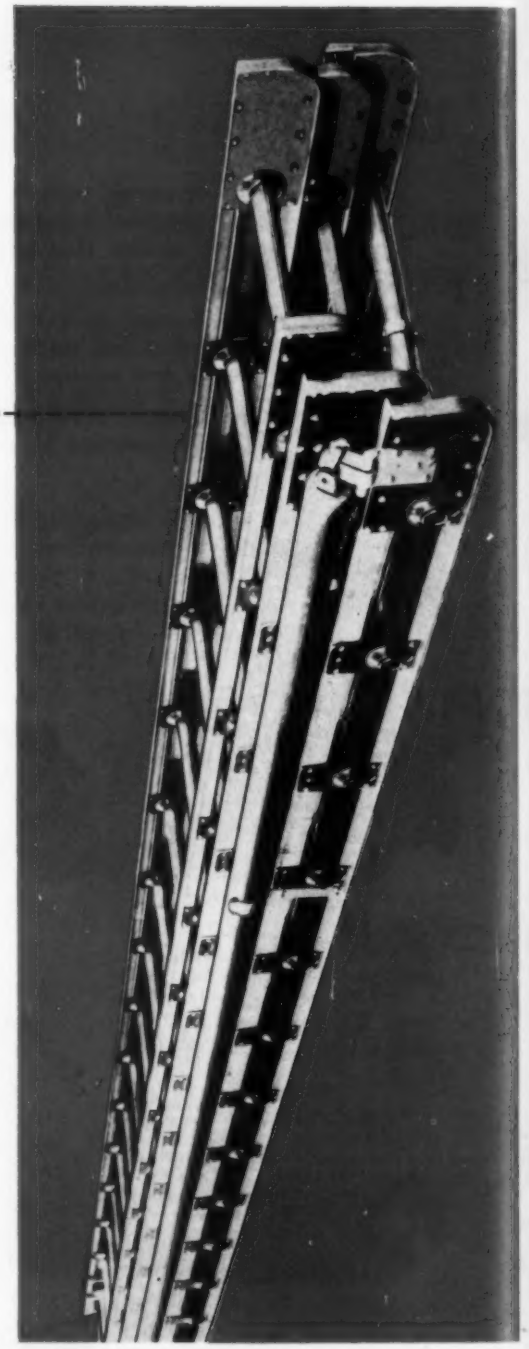
Visit the American LaFrance exhibit for the newest and finest in fire apparatus and fire fighting equipment at the I.A.F.C. Conference, San Francisco, September 12-15, 1950.

- 204 B.H.P. (certified) Model G engine for pumpers of 750 g.p.m. rated capacity. Full power output from all American-LaFrance V-12 engines on standard gasoline. No premium fuel required.

- Fourth in a series of advertisements outlining the EXTRA VALUES in American-LaFrance fire engines.

one ladder

that stands up to *every* test



One fire ladder—the *original* aluminum fire ladder—stands out today as the leader in fire-fighting safety and efficiency. The experience, the *test* of 18 years has proved beyond all doubt that *original* aluminum ladders perform better and stand up better than any other type of ladder.

Built of strong, light ST61 aluminum alloy these ladders are designed for fast, easy placement in confined spaces, using fewer men than cumbersome wooden ladders. Original aluminum ladders are *rugged*—require no care—and are splinter-proof, spark-proof, rust-proof and practically *wear*-proof.

Adding to the endurance and safety inherent in aluminum construction are the dozens of details of engineering and fabrication which distinguish *original* aluminum ladders from any other fire ladder. Stiff extruded T-channel design of long members, permanently anchored corrugated rungs and riveted double-plate bracing are a few of these exclusive test-proved features.

For *tested* safety, *tested* efficiency, *tested* durability, specify original aluminum ladders as original or replacement equipment.

ORIGINAL MANUFACTURERS OF ALUMINUM FIRE LADDERS

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

[illegible] CARRIE STREET • WORTHINGTON, PENNA.

IN CANADA: C. E. HICKEY & SONS, LTD.
HAMILTON, ONTARIO

SINGLE WALL LADDERS • LIGHT-DUTY EXTENSION LADDERS • HEAVY-DUTY 2, 3 AND 4-SECTION EXTENSION LADDERS • ROOF LADDERS • FOLDING LADDERS • PIKE POLES

CATALOG ON REQUEST

The RCA Carfone 152-174 Mc.

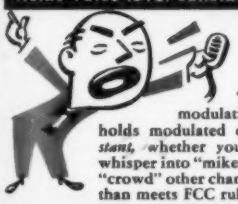
More than meets all FCC requirements

Complete with loudspeaker, controls, microphone, antenna, and self-contained transmitter, receiver, and power supply.

Better service over wider area

Carfone systems reduce adjacent-channel interference to the vanishing point. "A" is area for reliable operation using Carfone. "B" is area using conventional type equipment.

Holds voice level constant



Transducer modulation control holds modulated output *constant,* whether you shout or whisper into "mike." Does not "crowd" other channels. More than meets FCC rules.

Makes mounting easy

"Sandwich Case" construction makes installation easy—even in the "tight" spots. No mounting brackets needed to raise a CARFONE for servicing.

Suppresses "unwanted" radiation

Spurious emission way down on *all* frequencies—not just in the band. More than meets FCC rules for reducing interference with other services.

Bars interference

Low spurious response in CARFONE receiver does away with interference from transmitters on other frequencies.

Why you will prefer the RCA CARFONE

BECAUSE the RCA CARFONE enables systems cars and trucks to operate *without interference* over greater geographical area than was heretofore believed possible.

BECAUSE the RCA CARFONE can be installed almost anywhere. In passenger vehicles it can be installed on the fire wall . . . or on the shelf behind the back seat . . . or in the rear deck. In trucks it can be mounted on the wall of the driver's compartment, in the freight section, in truck side lockers.

BECAUSE the RCA CARFONE requires no extra space for opening sliding drawers—requires no double mountings—uses no junction boxes.

For complete details . . . or for consulting help on your radio system . . . write **Dept. 104H.** No obligation, of course.

MOBILE COMMUNICATIONS SECTION
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

Announcing.....

TWICE THE STRENGTH...

HALF THE WEIGHT!

MADE OF BRASS ALLOY NON-CORROSIVE

ELKHART BRASS

. . . X-TRUDE

Patent Pending

Elkhart's BRAND NEW HOSE COUPLING

Here, at Last is . . . . .

. . . the Coupling—as light as aluminum—but made of Brass—half the weight and twice the strength of brass couplings in service today—the real practical answer to the Fire Chief's challenge for lighter weight with greater strength.

The metal used in the Elkhart X-TRUDE Coupling is a special non-corrosive Brass alloy—the result of years of research in metallurgy. Processed by extrusion, instead of casting, gives more strength and insures greater accuracy in machining. Added to this is an improved design which comes from our long experience in making fire hose couplings.

Keep your equipment modernized, specify the Elkhart X-TRUDE coupling in your next fire hose order. It's the coupling all fire departments will eventually use.

Available in 2-1/2" (three lug type) and 1-1/2" (two lug type) Double Jacket Fire Hose Sizes

★

Write for Descriptive Literature

MFG. CO., INC. ELKHART INDIANA

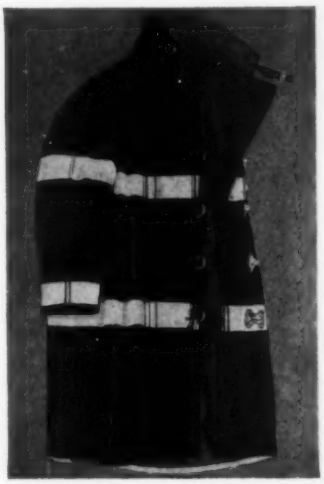
Friend of the Firefighter!

MIDWESTERN
PROTECTIVE CLOTHING

THE Original

Mackinaw Striped Safety Coat

Reduces Accidents — Saves Lives



Several years ago, Midwestern developed the *original* striped safety coat. The highly visible stripes are moulded to and vulcanized as part of the material. Thousands of Midwestern Safety Coats are serving fire departments throughout the world. Service records prove that these garments not only offer high safety visibility, but have the qualities required to withstand the rough usage required in your hazardous work of protecting life and property against fire.

All Midwestern Safety Coats have the moulded-in yellow stripes which are a part of the garment and not painted and sewed on. The *original* Midwestern Safety Coat will give you trouble-free protection and dependable service.

· PROTECTION
· COMFORT
· SERVICE

Largely through superior quality, design, fabric texture and advanced features, Midwestern is a leader in the field of firemen's clothing. All Midwestern specialized protective clothing have been developed from long years of experience . . . and each detail of design adds to the service, comfort, convenience and long wear of the garment.

WELCOME FIRE CHIEFS

TO THE I. A. F. C. CONFERENCE

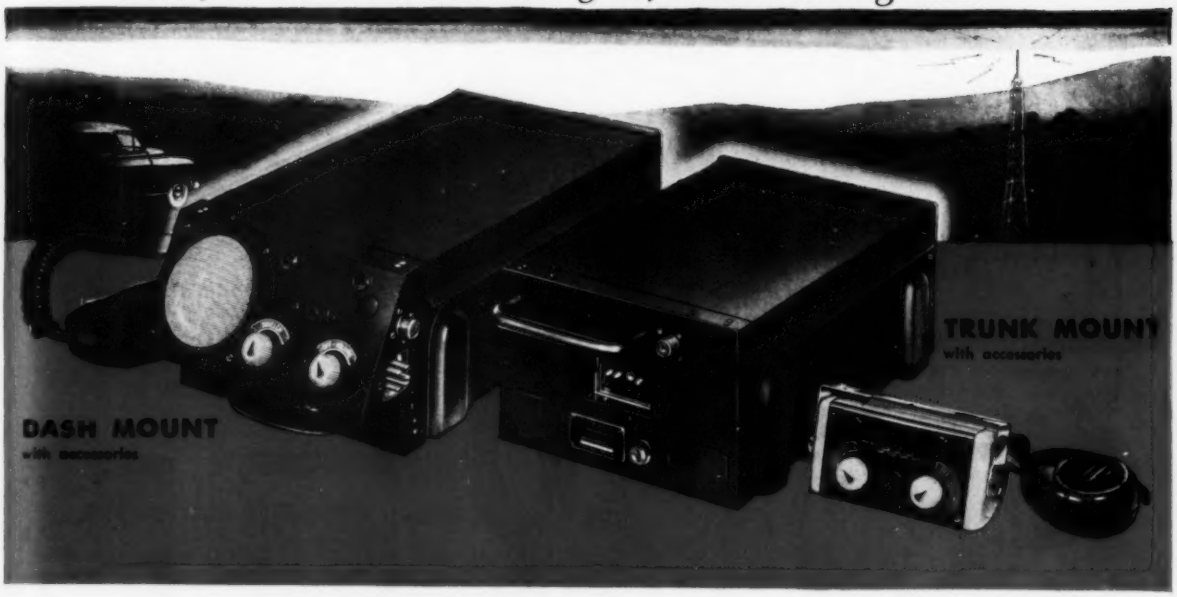
SAN FRANCISCO **SEPT. 12-15**

NONE GENUINE WITHOUT THIS TRADE MARK

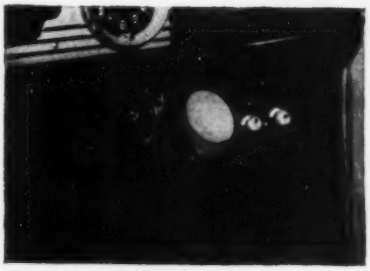
MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Only Motorola SENSICON can give you *these lasting Values**



New UNI-CHANNEL SENSICON DISPATCHER—*PUTS YOU AHEAD TODAY AND PROTECTS YOU (AGAINST OBSOLESCENCE) BEYOND TOMORROW!*



QUICK INSTALLATION
In any of several mounting positions, the complete, permanent installation requires only four screws.

COMPLETE "SHAKE-DOWN" TESTED
——by Motorola's engineering laboratory, the unit undergoes exhaustive tests to meet extreme conditions of service. (Tests made against temperature, humidity, and shock.)

ANTI-DUST HOUSING, with heavy duty construction throughout. Here is truly the all-purpose 2-way radio for every type of mobile application—offering the owner the benefits of advanced design, complete reliability, enduring economy, and freedom from obsolescence.

ENGINEERED for true adjacent channel operation. Available for operation in the 25-50 mc. band and 152-174 mc. band. R.F. power output: 10-12 watts.

Motorola

plug in antenna and power and you're on the air!

Only two quick, simple connections and you're on the air with a complete 2-way mobile or fixed-station set-up—wherever 6 volt DC or 117 volt AC primary power source is available.

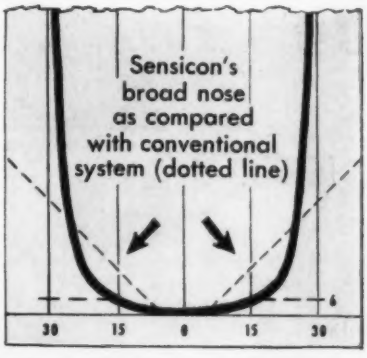
Uni-Channel fits into minimum space in the passenger compartment or trunk of any vehicle. Besides its ease of installation, it is *accessible!* Metering, P.A. tuning, and antenna alignment are done through covered ports in the front panel with the drawer in place. Turn key, pull drawer only one inch to release top cover, and the entire chassis can be lifted out, or, space permitting, pull the drawer-chassis straight out.

The unique and revolutionary Sensicon receiver design with the broad nose and steep skirt characteristic, offers the most practicable solution to adjacent channel operation plus protection against obsolescence for many years to come. It provides full modulation acceptance of ±15 Kc. at 6db. down and full adjacent channel rejection at the skirts.

THE NEW UNI-CHANNEL SENSICON DISPATCHER incorporates all of these Motorola inventions and developments:

- **The Sensicon Circuit**
- **Statomic Oscillator**
- **Differential Squelch**
- **Permakay-10 Wave Filter**
- **Capacitance Discriminator**
- **Instantaneous Deviation Control**
- **Thermally Balanced Crystal Oven**

Seven outstanding features combined in one compact chassis to provide finer communication than ever before offered in this price class.



FM 2-WAY RADIO

4545 Augusta Blvd., Chicago 51
Canada: Rogers Majestic, Ltd., Toronto

IT'S ALWAYS BEST TO BUY 2-WAY RADIO FROM MOTOROLA—THE SPECIALISTS IN MOBILE RADIO FOR 20 YEARS. THE WORLD LEADERS IN FM 2-WAY MOBILE COMMUNICATIONS SYSTEMS.

Rockwood's Family of Modern Fire Fighting Tools and Chemicals

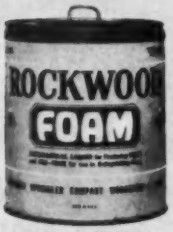
Continues to Grow

into the most advanced line of fire fighting products that has been offered to firemen in a half century.

Rockwood LIGHTweight triple-action type SG-48 Water-FOG Nozzle. Discharges *high velocity* WaterFOG, straight stream or *low velocity* WaterFOG from LIGHTweight Extension Applicator. Available for ¾", 1" 1½" and 2½" hose size.

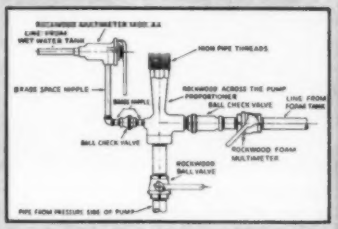
New LIGHTweight Type FFF Rockwood FogFOAM Nozzle. Available in three sizes for service on 1½", 2½" or 3½" hose. Discharges (1) a wide protective pattern of FogFOAM (with FogFOAM screen) (2) a long range solid FOAM stream (with FOAM shaper) (3) or, by shutting off FOAM Liquid supply, an excellent high velocity WaterFOG pattern is discharged.

Rockwood FOAM eductor introduces FOAM Liquid into hose line for use with Rockwood type FFF FogFOAM Nozzles. Eductor can be attached between discharge of fire truck and hose line, connected between hydrant and hose line or between two lengths of hose. Separate models are available for FOAM and Water Wetter.



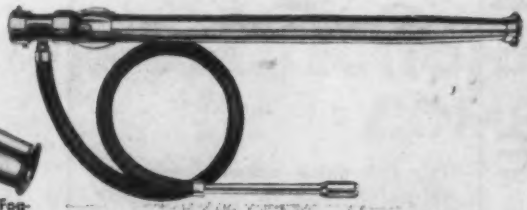
Rockwood FOAM. A mechanical liquid type FOAM for producing FOAM and FogFOAM for use in extinguishing fires.

Rockwood "Wet". Wetting agent or penetrant to be mixed with water for fighting fires.



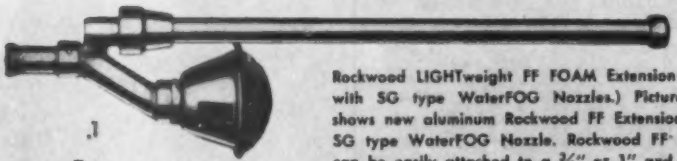
Rockwood Model B Automatic proportioner for fire trucks—pays for itself by automatically feeding FOAM Liquid or wetting agent into hose lines. Eliminates waste.

Rockwood LIGHTweight type FFF Fog-FOAM Nozzle with FOAM shaper attached.



Rockwood Standard FOAM Nozzle with pick-up tube. Discharges a solid FOAM stream on 1½" hose lines only.

Rockwood Bayonet Adapters for use in extending and reducing hose lines from Rockwood SG type WaterFOG Nozzles.



1

Rockwood LIGHTweight FF FOAM Extension (for use with SG type WaterFOG Nozzles.) Picture No. 1 shows new aluminum Rockwood FF Extension without SG type WaterFOG Nozzle. Rockwood FF Extension can be easily attached to a ¾" or 1" and 1½" SG type WaterFOG Nozzle by simply removing high velocity WaterFOG tip and inserting FF Extension—see picture No. 2.

2

FF Extension discharges high velocity FogFOAM thru FOAM screen or long range solid FOAM stream thru the long extension FOAM shaper.

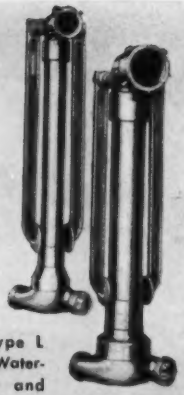
1

2

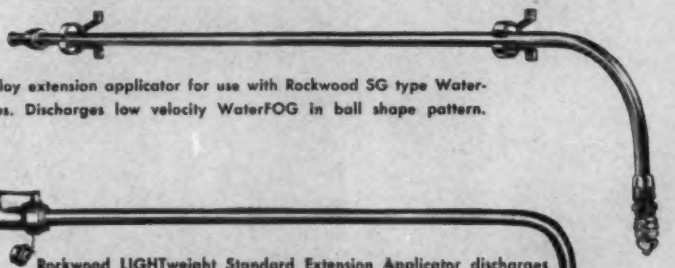
Picture 1 shows a Bayonet Adapter being inserted in a SG type WaterFOG Nozzle. Picture 2 shows another length of hose attached and ready for action without shutting off hydrant or pumper.

Rockwood LIGHTweight Type B, 500 GPM, High Capacity WaterFOG Nozzle for use on deluge guns, ladder pipes, etc.

Rockwood LIGHTweight type N-23 WaterFOG Nozzle with swivel handles. This nozzle discharges high velocity WaterFOG only and is similar to the Rockwood N-22 Nozzle but with a higher discharge and greater range of WaterFOG. Available for 1½" and 2½" fire hose lines.



Rockwood Type L LIGHTweight WaterFOG Cellar and Attic Pipe rotates freely without vibration (equipped with *thrust* bearings). Discharges WaterFOG in any position, easy to handle in action. Fights fires in cellars and attics, under piers and bridges, etc. Available for 1½" and 2½" hose size.



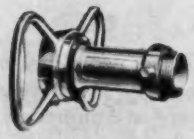
Aluminum-alloy extension applicator for use with Rockwood SG type WaterFOG Nozzles. Discharges low velocity WaterFOG in ball shape pattern.

Rockwood LIGHTweight Standard Extension Applicator discharges low velocity WaterFOG in ball shape pattern.

Rockwood Type S LIGHTweight Rotating Cellar and Attic Nozzle. A short unit with swivel, but without Extension barrel, for direct connection to hose. Two sizes for 1½" and 2½" hose.

Rockwood Applicator Clips for mounting Extension or Standard Rockwood WaterFOG Applicators on fire trucks, walls, posts, etc.

Rockwood LIGHTweight type N-22 WaterFOG Nozzles for service on 1", 1½" and 2½" fire hose lines. The type N-22 Nozzles discharge high velocity WaterFOG only and are recommended for general use around live electrical equipment.

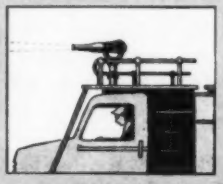


Rockwood LIGHTweight swivel handle play pipe available in 1½" and 2½" sizes for all Rockwood Nozzles.

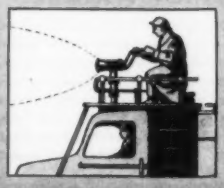
Rockwood LIGHTweight ball type shut-off for use on 1½" and 2½" fire hose lines.

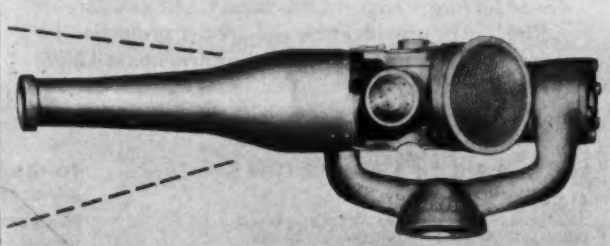
Rockwood Ball Type Valve. A ¼ turn, metal ball to synthetic rubber seat with full *round* waterway. Specially adapted for fire trucks.

HYDRAULIC REMOTE CONTROL: New type FFF Nozzle and turret installed on roof of cab can be operated easily from within cab by hydraulic controls. Same unit can be operated manually.



MANUAL CONTROL: Type FFF Nozzle and turret can be supplied as an integral unit for manual operation only by omitting hydraulic remote control mechanism.





New Rockwood Type FFF combined Nozzles and turrets provide 4 different types of discharge (1) FogFOAM (2) solid FOAM stream (3) WaterFOG and (4) solid water stream. Designed for use on airport crash fire fighting trucks and special fire fighting trucks for oil refineries, chemical and industrial plants. Can be supplied for hydraulic remote control or manual operation.

ROCKWOOD

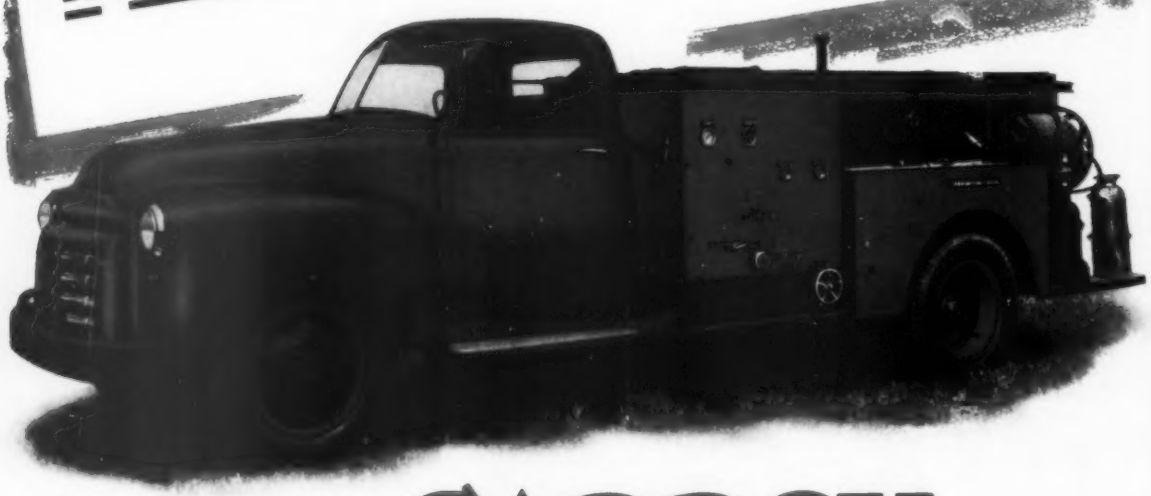
Portable Fire Protection Division

ROCKWOOD SPRINKLER COMPANY

54 HARLOW STREET WORCESTER 5, MASSACHUSETTS

It Had to Come!

a new and practical answer to the fire problem of smaller airports



Introducing the CARDOX AIRPORT FIRE TRUCK MODEL MC-750

NOW for the first time, *smaller* airports can have the greater security of the type of fire protection used and proved at hundreds of military airports. Because it makes fire extinguishing equipment of improved effectiveness economically practical for a large percentage of the nation's airports, the CARDOX MC-750 may well mark the start of a new era in airport fire safety.

And for *larger* airports, this latest CARDOX Airport Fire Truck provides new and greater protection for such operations as fueling, motor warm-ups and more certain extinguishment of spill fires that can quickly become major disasters if inadequately safeguarded.

The CARDOX MC-750 combines in a single unit the most effective features of *three separate types of apparatus.* It is a carbon dioxide truck—a pumper—and a water or foam truck. The primary extinguishing agent is 750 pounds of low-pressure carbon dioxide. Supplementing the extremely fast extinguishing action of the carbon dioxide, water and / or foam provide effective cooling and blanketing to minimize the possibility of re-flashes. Used as a conventional pumper, the Model MC-750 furnishes up to 400 gallons of water per minute.

SPECIFICATIONS

Extinguishing Mediums:
750 lbs. Low-Pressure (0° F.) Carbon Dioxide (Rechargeable from low-pressure storage or high-pressure cylinders).
200-250 gals. water in tank.
20-25 gals. air-foam concentrate in tank.

Discharge Apparatus:
Two 100-ft. carbon dioxide hose reels, 150 lbs. min. per nozzle.
Two 100-ft. water-foam lines with foam guns and fog nozzles.

Pump:
200 gpm at 200 psi.—100 gpm at 400 psi.
One 3-in. suction inlet; 2-1½ in. discharge outlets.
Auxiliary equipment and chassis as specified.

To the Chief Responsible for Airport Fire Protection:

The CARDOX Airport Fire Truck—Model MC-750—is such an important addition to airport fire protection equipment that you should have complete information. We'll be pleased to furnish it to you if you will write to us. Also note that the Model MC-750's unique combination of extinguishing performance and versatility suit it ideally to the needs of industrial plant fire protection.

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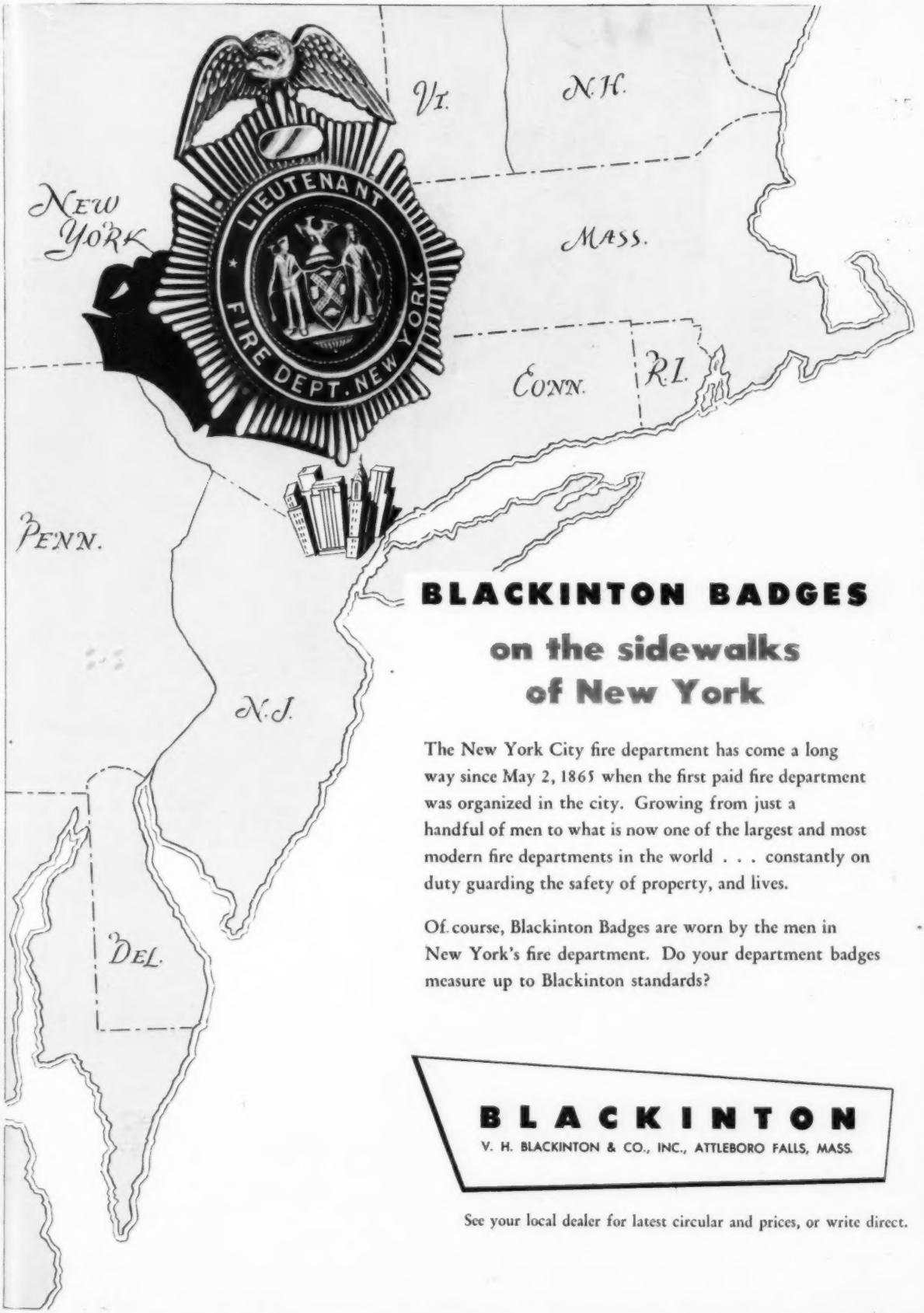

BLACKINTON BADGES

on the sidewalks of New York

The New York City fire department has come a long way since May 2, 1865 when the first paid fire department was organized in the city. Growing from just a handful of men to what is now one of the largest and most modern fire departments in the world . . . constantly on duty guarding the safety of property, and lives.

Of course, Blackinton Badges are worn by the men in New York's fire department. Do your department badges measure up to Blackinton standards?

BLACKINTON

V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

See your local dealer for latest circular and prices, or write direct.

HERE'S SEEING YOU.....
HOTEL
STANDING ROOM ONLY!
HI, BROTHER!
SURE, THIS 1950 CONVENTION'S TH' BIGGEST AND BEST!...IT'S IN CALIFORNIA, ISN'T IT?
OH— A NATIVE SON, EH?
WOW!— STREAMLINED AS A MACK!
TALK ABOUT SMOKE! WITH ALL THESE BLUE SHIRTS HERE YOU'D THINK THEY COULD DO SOMETHING ABOUT THIS!
THEY'VE GOT MORE WATER UP HERE THAN DOWN THERE!!
J'EVER SEE A PRETTIER SIGHT, CHIEF!
WE OUGHT TO GET OUR TOWN TO MOVE OVER NEXT TO A LAKE SO WE COULD HAVE A FIRE BOAT, EH, JOE?
THEY BETTER GO EASY OR THEY WON'T HAVE ANY BAY LEFT!
WHAT A DISPLAY!
HEY!
BILL'S BULLDOG MASCOT SURE SETS THE PACE IN PERFORMANCE!
HE USED TO HAVE A DALMATIAN, BUT THIS YEAR HE MODERNIZED!
BILL DEMANDS RUGGED CONSTRUCTION IN HIS MASCOTS!
IT'S A RUN!
JUST CALL ME MACK
REMEMBER THAT 5-ALARM APARTMENT HOUSE BLAZE BACK IN '38? MIKE WAS AT TH' TOP OF OUR 75-FOOT LADDER AND ALL OF A SUDDEN THAT BEAUTIFUL DAME OPENED A WINDOW AND.....
SURE, BROTHER! AND REMEMBER TH' TIME WHEN A CITIZEN WAS BUR ING HIS MORTGAG AND TH' FIRE GOT OUT'A HAND!!
HAW HAW
DO YOU KNOW WHO'S GOING TO BE SECOND VICE-PRESIDENT?
WOULDN'T I LIKE TO KNOW!
I SAID, GET INTO TH' MEETING, YOU BIRDS!
COMIN' SARGE!

AT THE 1950 SAN FRANCISCO I.A.F.C. CONVENTION!

By GRAHAM HUNTER

GREETINGS!— ARE YOU A NATIVE CALIFORNIAN?
LISTEN, VOL,— AIN'T YOU EVER HEARD OF FLORIDA?
IT WASN'T TH' EARTHQUAKE— IT WAS THE FIRE!
SO?
THINK THIS CABLE CAR WILL MAKE TH' GRADE?
CERTAINLY, BROTHER!— IT'S BEIN' TOWED BY A MACK!
IF YOU HEAR ANYTHING CRACK IT'S MY RIBS!
WHEW!— MAYBE WE SHOULD'A HAD A RESCUE SQUAD TAG ALONG!!
HAVEN'T BEEN PACKED IN SO TIGHT SINCE OUR LAST FIREMEN'S DINNER!
HIS NIAGARA IS REALLY SOMETHING TO SEE!
YEAH, BROTHER— I WISH WE'D HAD ALL THIS PRESSURE-VOLUME AT OUR BIG PAPER WAREHOUSE 5-ALARMER!!
OUR DEPARTMENT'S GETTING A 1,000 GALLON MACK PUMPER, HARRY.
SORRY, OFFICER— 62,000 HOTEL BEDROOMS AND ALL OF 'EM BOOKED UP.
YOU OUGHT TO SEE OUR NEW MACK AERIAL LADDER TRUCK, CHIEF!
WHERE'S ALL THAT FIRE FIGHTING ENERGY OF YOURS, GEORGE? WE'VE ONLY SEEN FISHERMAN'S WHARF, DE YOUNG MUSEUM, THE WAR MEMORIAL, GOLDEN GATE BRIDGE, THE EMBARCADERO, AND COIT TOWER.... WE STILL HAVE TO DO CHINATOWN!!
C'MON, BOYS — HOOK UP AND STRETCH IN!!
ZOWIE!— WE ROLL!
HEY, POP!— I GOT A 3-ALARM APPETITE! WHEN DO WE EAT?
ARE THOSE WOMEN DISCUSSING TH' NEW MACK, OR THEIR OLD MAN?
HEW! I'M USHED!
OH, FER A LITTLE REST!
DON'T THESE SMOKE-EATERS EVER GO HOME!

Your copy of these pictorial convention "highlights" will be waiting for you at the Mack Booth. Write for your copy if you can't be there.

A large reproduction of these scenes will be a Door Prize at the Mack Booth. Be sure you get your entry in! Best wishes for a memorable convention.

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Modernize with

Mack
FIRE APPARATUS

Outlasts them all

MACK MANUFACTURING CORPORATION
Fire Apparatus Division,
Long Island City 1, New York

Factory branches and distributors for service and parts in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS—500 TO 2000 GPM . . . SQUAD AND HOSE CARS . . . AERIAL, CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

725,000 gallons o
water were pumped on this inferno
but the blaze continued for more tha
12 hours . . . until 43 firemen were i
hospitals and more than 1/2 millio
dollars had gone up in smoke. No on
in Dayton, Ohio, expected such a fire
but, fortunately, there was plenty o
Republic Fire Hose on the job an
alert fire crews were able to keep th
holocaust from spreading. Republic
Fire Hose is carefully constructed o
the finest materials, which are spe
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Even after long periods of inactivity
Republic Fire Hose is ready for actio
with maximum fire-fighting strength.
Be prepared. Talk to your local Re
public Distributor now about reliable
Republic Fire Hose or write direct.

Pioneers in the use of COLD RUBBER

INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

THIS SUMMER CUT DROWNING DEATHS WITH E&J

the instrument that provides

MAXIMUM ASSURANCE OF SUCCESS IN TREATING ALL ASPHYXIATION CASES

THE E&J IS AUTOMATIC *in every possible way*

AUTOMATICALLY *produces exact positive and negative pressures absolutely safe and correct for adult or tiny infant.*

AUTOMATICALLY *adjusts volume to any lung size.*

AUTOMATICALLY *signals if upper air passages are obstructed.*

AUTOMATICALLY *signals when natural breathing is resumed.*

THERE IS NO CHANCE FOR CONFUSION OR DOUBT

If your budget is s-t-r-e-t-c-h-e-d . . .

YOUR COMMUNITY WILL HELP YOU GET NEEDED E&J RESUSCITATORS *right now!*

The extra hazards of summer, particularly for children, make *this month* the time when the parents of every child in your community are deeply interested in the ready availability of efficient resuscitation equipment.

Make this interest work for your department! You can stimulate it and direct it...*convert it into needed equipment* ...through immediate use of the highly successful E & J Fund Raising Plan. Write or wire E & J at the address below RIGHT NOW. An E & J Representative, skilled in the fund-raising methods that have enabled Departments from coast to coast to get adequate equipment, will work with you to make your campaign successful. Get your request in NOW for quickest action. No obligation, of course.

Always glad to demonstrate!

E&J

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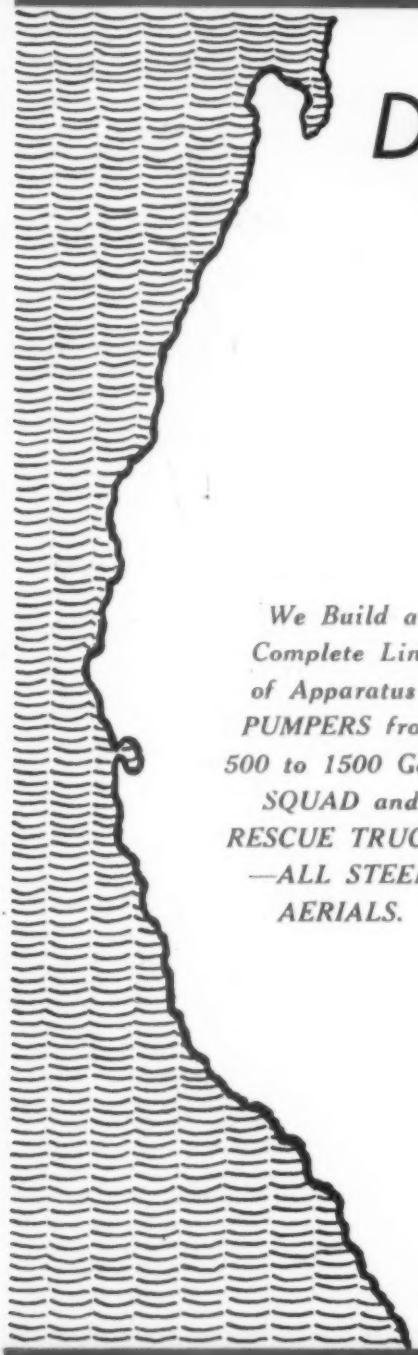
Dependable Apparatus



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HERE ARE JUST A FEW OF THE MANY CITIES THAT HAVE RECENTLY PURCHASED MAXIMS . . . . . .

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Known and Depended on —

Motor Fire Apparatus

ator Three Generations

Sanford	Maine
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South Bend	Ind.
Amite	La.
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Johnson City	Tenn.
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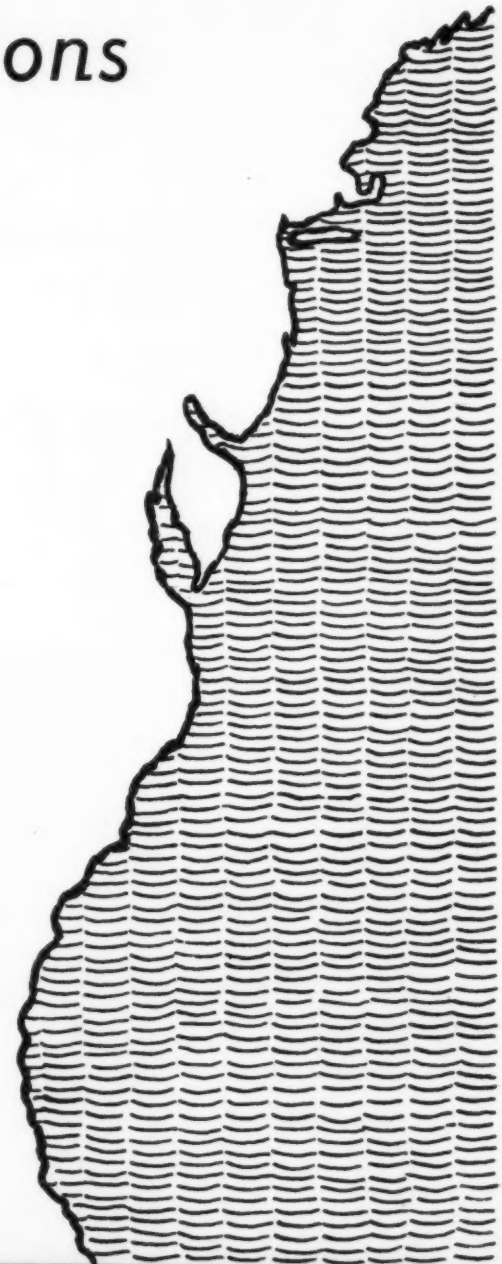
Glens Falls	N. Y.
Roanoke	Va.
Pawtucket	R. I.
El Segundo	Calif.
Forty Fort	Pa.
Kings County F. P. Dist. 8	Wash.



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from Coast to Coast

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Headquarters for Fire Department

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McINTIRE BRASS WORKS

Pioneers in Nozzle Manufacture

ORIGINATORS

and Sole Mfgrs. of

INVINCIBLE NOZZLES

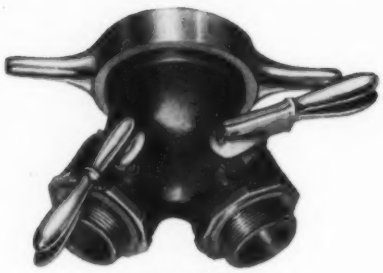


Fig. 164AN
4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

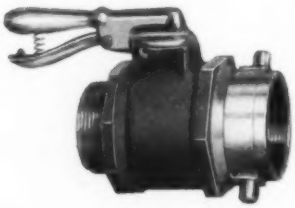
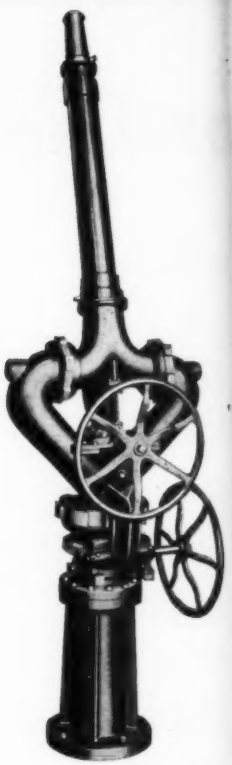


Fig. 163
Made either Right Hand or Left Hand 2½" male x female, gate valve.



15 feet high.
6500 G.P.M.
5" tip.

Fireboat Tower Nozzle

Operated by Remote Control

with full Transverse Control

Figure 114-B — one of many — made by pioneers in nozzle manufacture.

AUTOMATIC-OPERATING SHUTTER AND SLIDING POLE

The finest in the field—be sure to specify **McINTIRE**

MODERN ECONOMICAL SAFE

"MORSE" SHUT-OFF NOZZLE AND PLAYPIPE COMBINATION

Fig. 156

F. N. McINTIRE BRASS WORKS 221 HIGH STREET BOSTON, MASS.

"SNOW STORM" THAT STOPS FIRE!

AER-O-FOAM SNUFFS OUT FIRE
PROTECTS TANKS, BUILDINGS, EQUIPMENT

At the first wave of excess heat down comes a blanket of fire-snuffing AER-O-FOAM over the entire loading area. That's the way the new automatic fire foam system protects Schenectady Varnish Company.

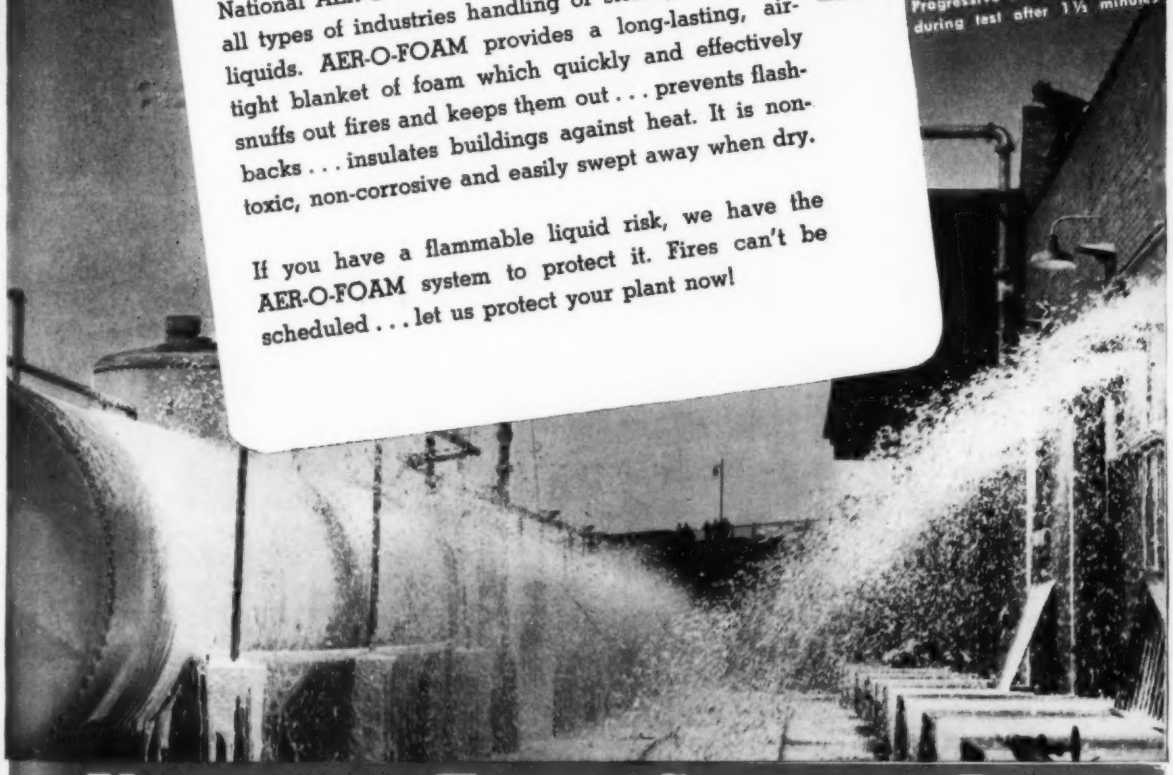
Storage tanks with oils, thinners and other flammable liquids, tank cars and equipment are all automatically covered with a three inch blanket of AER-O-FOAM in one minute. A total depth of 21 inches is possible.

National AER-O-FOAM offers fire-tested protection in all types of industries handling or storing flammable liquids. AER-O-FOAM provides a long-lasting, air-tight blanket of foam which quickly and effectively snuffs out fires and keeps them out . . . prevents flash-backs . . . insulates buildings against heat. It is non-toxic, non-corrosive and easily swept away when dry.

If you have a flammable liquid risk, we have the AER-O-FOAM system to protect it. Fires can't be scheduled . . . let us protect your plant now!

Heat test is applied to heat actuated device at beginning of full scale test

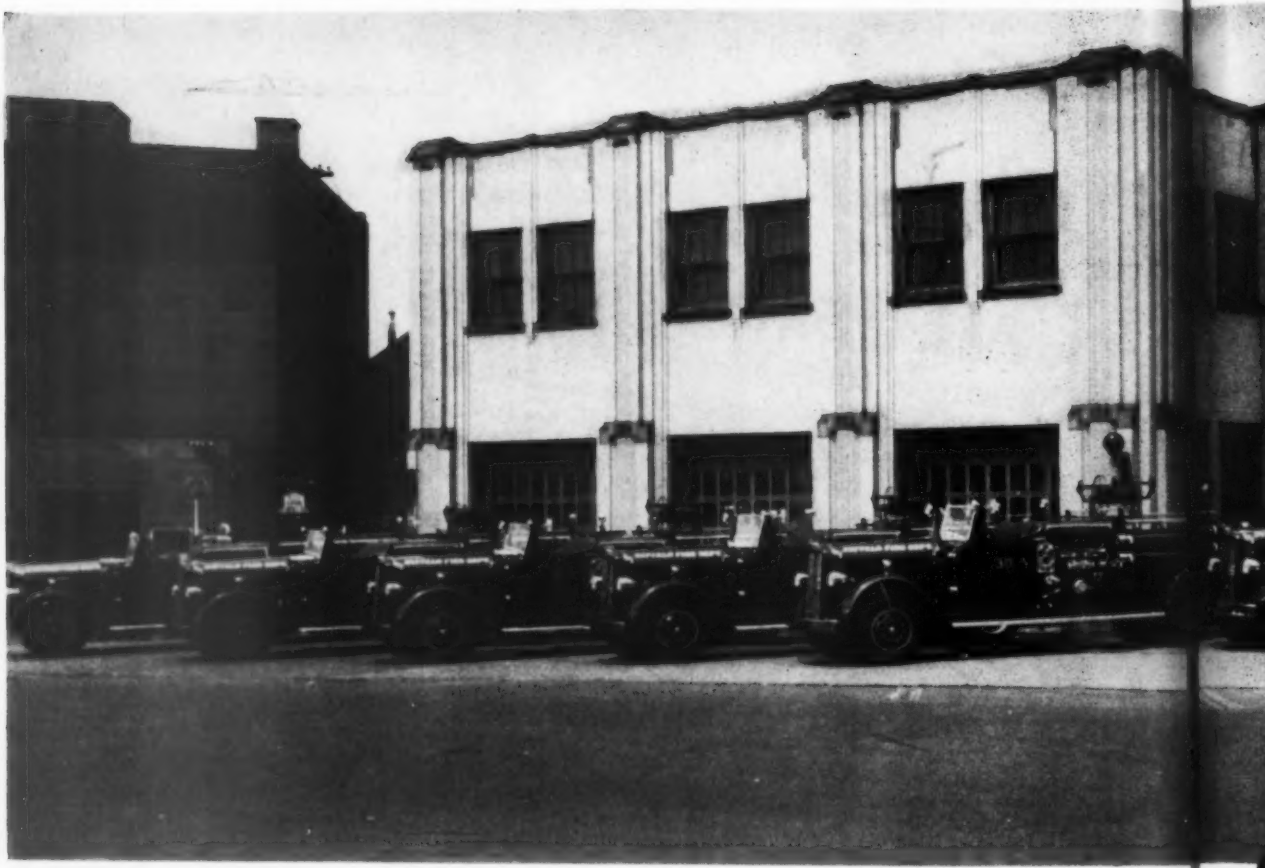
Progressive coverage by foam during test after 1½ minutes



NATIONAL FOAM SYSTEM, INC.

Headquarters for Foam Fire Protection

WEST CHESTER, PENNSYLVANIA



Fleet of Ward LaFrance Fire Apparatus recently delivered to the city of Buffalo

Another famous fleet by . . .

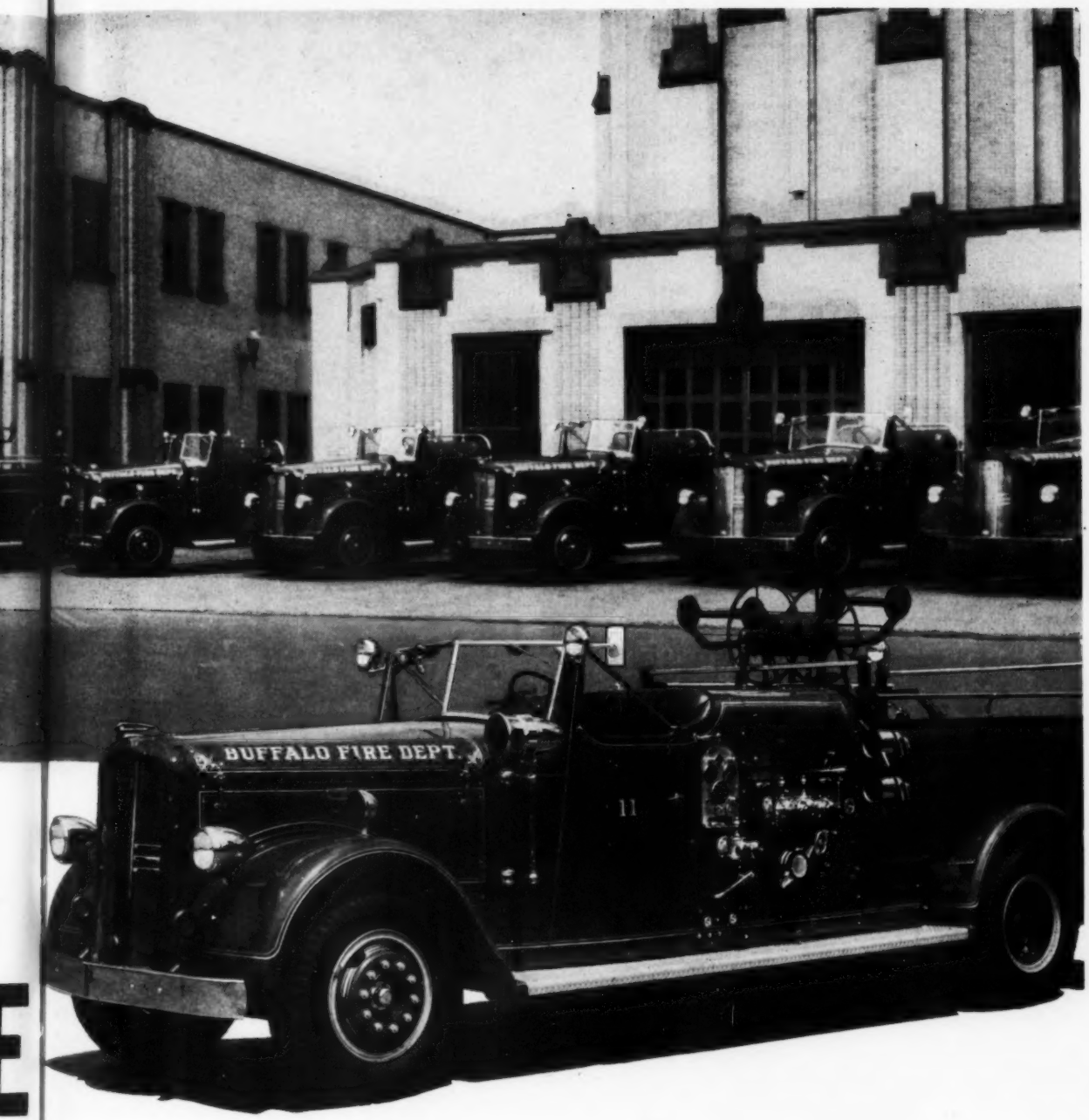
WARD LaFRANCE

In Buffalo, N. Y. — as in so many cities across the country—Ward LaFrance plays a vital role in providing dependable fire protection. This famous apparatus is built and equipped to fit each community's special needs.

Whether your local requirements demand apparatus that can carry its own water supply or pump water from any source . . . hydrant, cistern or stream . . . you'll find Ward LaFrance an outstanding choice. Ease in maneuvering through congested streets or over rough country roads . . . reserve horsepower for accelerating quickly or climbing hills . . . surplus gallonage that far exceeds its rated capacity . . . plus a Waterous split housing pump — all these are standard Ward LaFrance features.

For fire apparatus that fits your community, be sure to consider Ward LaFrance first — built by the manufacturers of the world-famous, war-proven M-1 Wrecker. Send today for Bulletins 75 - 85.

Pumpers — Quads — City Service — Hose Wagons — Special Types — Single-, 2- or 3-Stage Centrifugal Pumps in various capacities.



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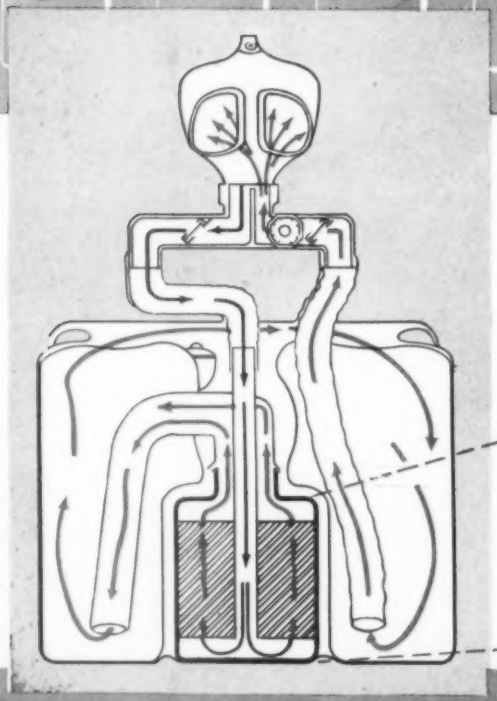
Lightest Weight—Least Maintenance

Replaceable Oxygen Canisters—Always Ready for Service



A simple replaceable canister DOES THE WHOLE JOB!

At the Convention—be sure to visit the big M·S·A Exhibit . . . Booths 24 and 25

You slip a Chemox canister into place and breathe—that's all! The chemical contents make oxygen as you need it, as you breathe, with the absolute certainty of chemical reaction . . . *always.* And the protection is U.S. Bureau of Mines-approved for a minimum of 45 minutes with every canister.

LIGHT IN WEIGHT! ECONOMICAL TO USE!

CHEMOX weighs only 13½ lbs. complete—lighter by many pounds than any other Bureau of Mines-approved self-contained oxygen or air-supplying equipment. It is easy to wear! And, with replaceable canisters stored in the firehouse, no recharging problems or expense. With no moving parts, Chemox reduces maintenance to a minimum and assures trouble-free service. *Write for Bulletin B-14—ask for a demonstration!*

You know you're protected with Chemox

M·S·A

Chemox®

SELF-GENERATING

OXYGEN BREATHING APPARATUS

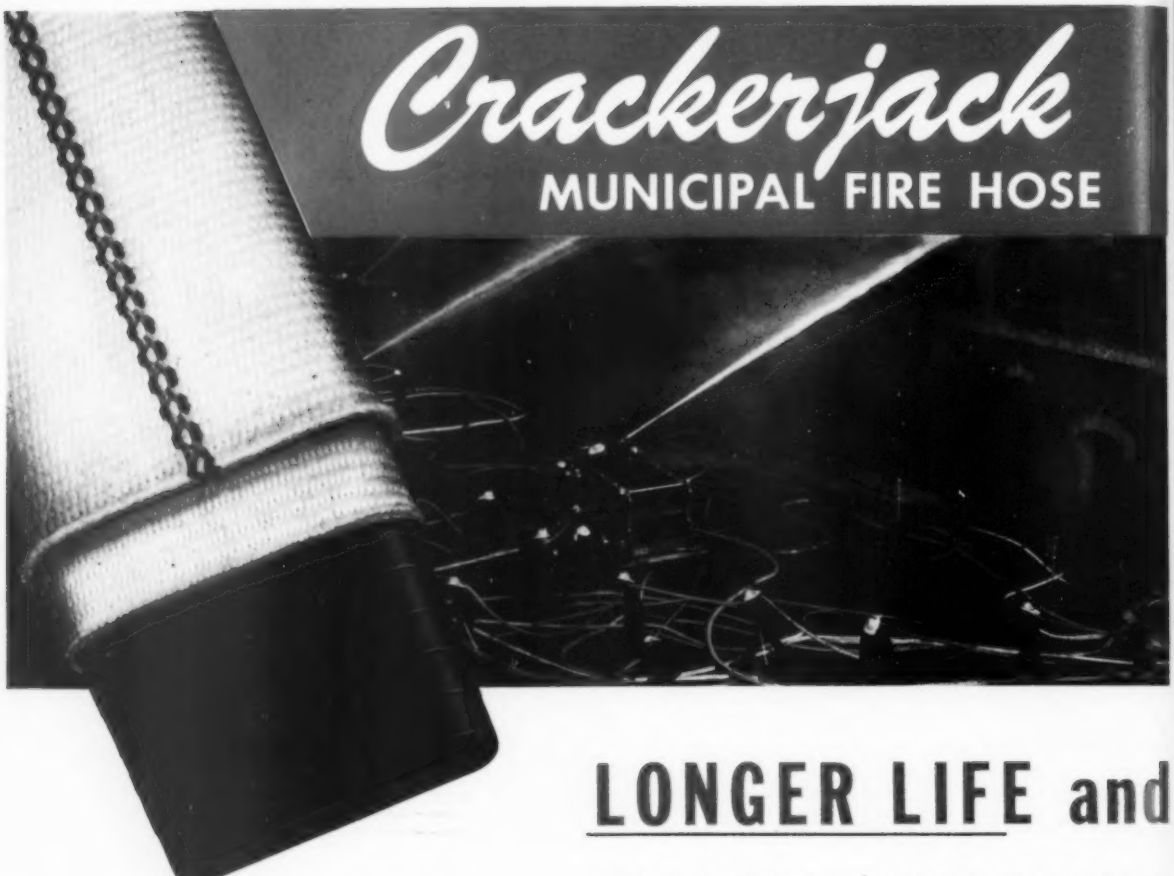
SIMPLE, because Chemox uses replaceable oxygen-generating canisters that can be stored in quantity until needed—with no deterioration, no leaks, no checking for condition!

SAFE, because Chemox gives complete respiratory protection when you "go inside"—no bulky cylinders to hamper movement—no mechanical gadgets or valves to malfunction.

SURE, because Chemox is quick in action and always ready—no high-pressure cylinder, no leaky valves or lines. Yes, *you know you're protected with CHEMOX!*

MSA
SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES COMPANY
Braddock, Thomas and Meade Streets · Pittsburgh 8, Pa.
At Your Service: 54 BRANCH OFFICES
IN THE UNITED STATES AND CANADA



LONGER LIFE and EASIER HANDLING

Here's why CRACKERJACK is the finest hose to use—most economical to buy!

HEAVY DUTY . . . yes! Jackets are woven of the strongest premium long staple cotton. All yarn is twisted to our own strict specifications.

FLEXIBLE . . . yes! Special methods of weaving and manufacture plus premium yarns and rubber compounds make CRACKERJACK hose the easiest and fastest to use.

BALANCED WEAVING . . . yes! Special weaving, perfect fit, and proper inter-action of the jackets mean maximum strength.

SMOOTH WATERWAY . . . yes! Each lamination is calendered through polished steel rolls to eliminate corrugations and imperfections—reduce friction loss to a minimum.

NATURAL RUBBER TUBES . . . yes! Laboratory tests show Crackerjack tubes will retain 90% of their original qualities for 15 years and longer—ordinary tubes often average 50% loss in 5 years!

LAMINATED TUBES . . . yes! Layer after layer, Crackerjack tubes are built up and vulcanized into a single body—your surest protection against flaws and imperfections.

EXPENSIVE . . . no! Figure Crackerjack costs against average life expectancy. *You'll find Crackerjack costs less per foot per year!*

Much Crackerjack hose that went to its first fires in horse-drawn vehicles is still in use! Eighteen, twenty, twenty-seven years of action . . . that's long life! Take a sample of Crackerjack municipal fire hose in your hands—feel its flexibility, its specially woven jackets—you'll understand why it is so fast and easy to handle. More than forty years of experience goes into the manufacture of Crackerjack fire hose. It is unsurpassed for ruggedness, flexibility, and long life—*and the lowest cost per foot per year!*

Famous Brands of American Municipal Fire Hose

WHITE	*TREATED*
CRACKERJACK	**IMPERIAL**
AMERICAN	**ARCO**
MUNICIPAL	**MAJOR**
LIGHTNING	**SURETY**
UNDERWRITERS	**UNDERWRITERS**

All the above brands may be had in round or flat cure.

The AMERICAN RUBBER Mfg. Co.

FACTORY AND GENERAL OFFICES, OAKLAND, CALIFORNIA

NATURALLY . . . *SEAGRAVE* is

THE GREATEST NAME IN FIRE APPARATUS

here's why

Engines, pumps, hoists, bodies, ladders and other principal parts of Seagrave Apparatus are engineered and built in the Seagrave factory. They are made for fire service and for no other purpose. They are designed to work together to give your city the most dependable and trouble-free fire protection at the lowest possible cost consistent with quality workmanship . . . That's why Seagrave continues to be the leader in the Fire Apparatus industry.

The Seagrave Corporation Columbus, Ohio

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Seagrave

How Long Have YOU Worn a **BRAXMAR BADGE?**

There's a nice new, shiny, rolled gold badge waiting for the chief that has worn a Braxmar Badge the longest. If you feel you qualify, just drop us a card telling us how long you have worn your old Braxmar Badge. Many of our beautiful and long wearing badges have been worn 25—30—and even as much as 50 years. At any rate, let's hear from the active chief who feels he is entitled to a free, new badge.

Perfection in Badges since 1879

ONE OF OUR EARLY ADVERTISEMENTS (1879) IN THE ORIGINAL FIREMEN'S JOURNAL (now FIRE ENGINEERING)

If you have not yet received our latest circular, we'll be glad to mail one on request.

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John O. Veit, Pres.

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MARS SIGNAL LIGHTS

CHICAGO'S FIRE COMMISSIONER MICHAEL J. CORRIGAN

THE MARS SIGNAL LIGHT

AMERICA'S LARGEST SELLING WARNING SIGNAL LIGHT

IS FULLY GUARANTEED FOR FIVE YEARS!

Mars Has Never Failed to Back Up This Guarantee and Never Will

IT WILL LAST AS LONG AS YOUR APPARATUS

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THERE ISN'T ANOTHER LIGHT LIKE IT

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RIDE THE "CORRIGAN SPECIAL" TRAIN

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...A PICTURE of IMPORTANCE TO EVERY FIRE OFFICIAL....

TYPICAL OF ENDORSEMENTS IS THIS ONE FROM THE CONNECTICUT FIRE CHIEFS ASSOC.

"Resolved that the Connecticut Fire Chiefs' Association, Inc., go on record as endorsing the motion picture STOP FIRES—SAVE JOBS and recommending its showing to employees of industries and in schools and other places throughout America."

The Connecticut Fire Chiefs' Assoc., Inc.
Thomas Shipman, President

BY DOING THIS YOU WILL BE DOING YOUR UTMOST TO PROTECT THE INDUSTRIES OF YOUR CITY FROM FIRE.

It is the consensus of best opinion that the best way to lower fire loss is to prevent fire. The best way to prevent fire is through effective education. This sound film has been especially prepared by experts to educate workers to fire hazards — shows how to eliminate or handle hazards—and if fire does strike, what to do about it. This film will stop fires and will save jobs. It is up to you, Chief, to bring this picture to the attention of heads of industry in your city. Suggest and recommend it be shown to every worker in your city. The film is available to any individual or group. It is endorsed by the National Board of Fire Underwriters and the Factory Insurance Assoc. Running time 19 minutes—cost $47 each F.O.B. N. Y. for 16 mm. sound print.

Send for Descriptive Folders to Hand to Responsible Industrialists in Your Town—Yours for the Asking — How Many Can You Use?

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HERE IS WHAT

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MEANS TO YOU AND YOUR CUSTOMERS . . .

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DEPENDABLE FIRE PROTECTION AT ALL TIMES!

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AN UNLIMITED SALES POTENTIAL!

NOW AVAILABLE IN

2½ and 4 lb. models

TELLS YOU AT A GLANCE IT'S Ready To Go!

SAFE-T-METER FEATURES!

- B-2, C-2 Underwriters' Rating
- Pressure Gauge Tells Status Of Extinguisher At A Glance
- Can Be Used Intermittently
- On-The-Spot Refilling
- No Tools Required

Now, for the first time, Safe-T-Meter, Safety First's revolutionary, new visual gauge fire extinguisher offers positive on-the-spot fire protection! Its easy-to-read dial tells its status at a glance . . . eliminates the danger of an empty extinguisher when fire strikes! Available in 2½ and 4 lb. models, Safe-T-Meter weighs so little and is so easy to operate that even a child can use it. Economical, too, because Safe-T-Meter's sturdy, precision built construction lasts a lifetime . . . its highly effective Safety First dry chemical is inexpensive to replace. Write now for complete information!

NEW RECHARGE CYLINDER MAKES PRESSURIZING EASY!

Just follow simple directions on recharge cylinder label . . . No tools or technical knowledge is needed. When cylinder is expended return to your Safe-T-Meter dealer for replacement.

Write also for information concerning the complete line of Safety First Industrial Dry Chemical Extinguishers. Ranging in size from 5 lbs. to 30 lbs., there is an extinguisher to fit your every need!

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ELMSFORD • NEW YORK

only one fireman's boot . . .

Has 20 Advantages!

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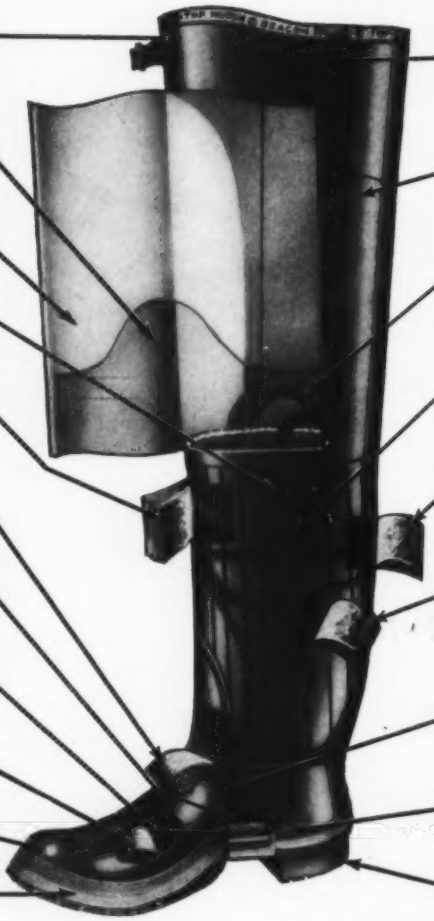
TOP NOTCH SIREN



- SPECIAL HIP WITH HIGH FRONT SKIRT, ALSO IN SHORT HEIGHT.
- THICK GAUGE INSIDE GUM KNEE PATCH OF CREPE RUBBER - PREVENTS SHARP CRACKING.
- NET LINING FOR AMPLE STRETCH THROUGHOUT THE ENTIRE SKIRT.
- WARM WOOL LINING THROUGHOUT.
- SPECIAL STIFFENING COLLAR TO MAKE IT EASY TO GET INTO THE BOOT.
- FOURTEEN PLIES OF FABRIC AND RUBBER WITH SPECIAL THROAT STAY.
- WARM FELT LINING, FELT COVERED, CUSHION INSOLE.
- REINFORCED LADDER SHANK, CAREFULLY SHAPED TO FIT THE FIREMAN'S FOOT.
- NINE PLIES OF FABRIC AND RUBBER AT THE VAMP.
- REINFORCING TOE CAP PROTECTION.
- EXTRA THICK SUPER-QUALITY SOLES.

- STORM KING LENGTH IS 3" HIGHER THAN THE USUAL, GIVING MORE PROTECTION - QUICK ADJUSTMENT.
- OUTSIDE, EXTRA RUBBER REINFORCEMENT.
- STURDY PULL-ON LOOPS, ON BOTH SIDES.
- THIS ENTIRE BOOT IS VULCANIZED BY AMMONIA CURE - A PATENTED, EXCLUSIVE FEATURE.
- SIX PLIES OF FABRIC AND RUBBER HERE.
- SEVEN PLIES OF FABRIC AND RUBBER HERE - A "SHINGLED" CONSTRUCTION WHICH DISTRIBUTES THE STRAIN. RESISTS SNAGGING AND GIVES MUCH LONGER WEAR.
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- THICK SIDE GUARDS AT SHANK, GIVING PROTECTION AGAINST NAIL OR SPLINTER PUNCTURING.
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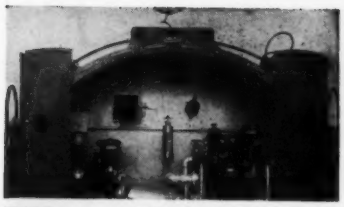
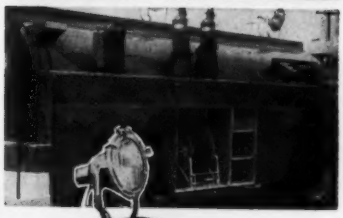
ONLY *Smithco*

gives you a 2000 GALLON FIREFIGHTER





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. . . designed especially for suburban and rural communities with limited water supply

The new Smithco Firefighter delivers the goods. No rural or suburban community can afford to be without it. Only Smithco gives you a 2000 gallon carrier plus all these extra features.

1. Hale Type FZZ Pump—60 to 150 G. P. M. @ 90 to 30# Pressure
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3. Three 250 Watt Floodlights, Cable, Adapters, etc.
4. Two 12′ Aluminum Pike Poles
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8. Two hundred and fifty feet of ¾″ Booster Hose
9. One ¾″ Mystery Fog Nozzle
10. Two 1½″ Mystery Fog Nozzles
11. One 1½″ Siamese Connection
12. One 24′ Aluminum Extension Ladder
13. Four Rubber Rainsuits and Hats
14. Two 15-pound CO_2 Extinguishers
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16. Two 5-Gallon Fuel Cans

RECOMMENDED TRACTOR—F7 or F8 Ford, WC-20T White or Equal

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Firemen's BADGES

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Quality Badges for over 75 years

This is only one of hundreds of designs including all the old favorites and many new ones.

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IT'S FUNNY — sure it is, but it's a fact that more and more fire departments insist on ATLAS Life Nets. More and more departments are *specifying* ATLAS on pumpers as well as ladder and rescue trucks.

It's a proven fact, too, that the safest net anyone can jump into is an ATLAS —it's made that way—to be the strongest and best net ever designed and built for fire rescue service. And Chief—you know there's nothing funny about being caught with an old outmoded, weakened net. Ask us to inspect your present nets. Consult us on new nets. Always specify ATLAS—

IN THE FIRE SERVICE THERE'S NOTHING "JUST AS GOOD"

When you buy, specify ATLAS LIFE NETS. They belong on pumpers as well as ladder trucks and rescue trucks. Carry them, use them, they are made to SAVE LIVES. "The life net is the fastest modern means of rescue" — and ATLAS has been proven to be the finest net.

ATLAS *"The World's best life net"*
27 Warren Street, New York 7, N. Y.
SAFETY EQUIPMENT CO., Inc.

FOR

Power

Dependability

Efficiency

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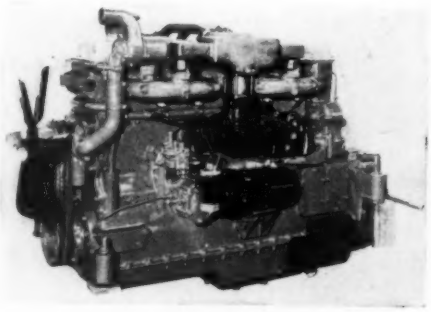
SERIES "400" FIRE ENGINES

UNEQUALLED IN PERFORMANCE

A RUGGED POWER PLANT
FOR SEVEREST EMERGENCIES



ON DISPLAY AT
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OF
INTERNAT'L ASSN. OF FIRE CHIEFS

Write to Factory or nearest Factory Branch for further details

HALL-SCOTT MOTOR DIVISION
ACF-BRILL MOTORS COMPANY
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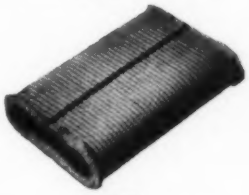
Tough fires demand rugged fire hose!

You can't fight tough fires with tired hose! *Maybe* a bucket brigade could handle a *small* fire if hose burst under pressure. But it's smarter to have plenty of BWH Fire Hose on the truck . . . then you're ready for quick action with no breakdowns!

BWH originated circular woven cotton jackets for fire hose . . . a construction that gives strength without weight. BWH high-quality rubber tubes are specially compounded to resist aging. Flat cured to fold compactly and quickly in the truck bed, there's minimum twist and maximum flexibility for rapid advancement.

For detailed information on BWH Fire Hose, call the nearest representative of The General Detroit Corporation. The "General" trademark is easy to find in the classified section of your telephone directory and a call to this organization of acknowledged fire equipment experts will bring you impressive facts about BWH Fire Hose dependability.



BWH
"BOSTON FIRE JACKET" HOSE

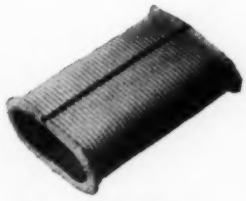
Double Jacket
Heavier, stronger fibers, perfect adhesion, smooth, friction-resistant waterway. Rates tops in every test!

BWH
"PARAMOUNT" HOSE

Double Jacket
Designed for easy handling and long service on tough jobs. Ages well, withstands high pressures.

BWH
"MILO" HOSE

Single Jacket
For long, trouble-free performance in communities where a light service hose is adequate.



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"UNDERWRITERS" HOSE

Single or Double Jacket
Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

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Enthusiastic

Acceptance

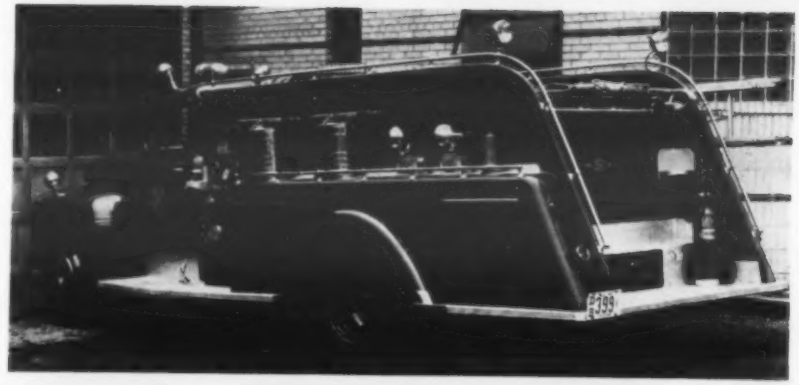
H & H FIRE APPARATUS *with the* Champion Pump *that can't be beat!*

The tank truck fire fighter is proven—and it's here to stay. And equally certain is the fact that the H & H tank truck fire fighter is filling the need for a really exceptional piece of apparatus. In the relatively short time we have been in business we are proud to point to many representative towns that have swung to H & H — among them Saddle River, N. J.—Woodbury Heights, N. J.—Southampton, L. I.—to mention a few.

Trucks from 300 to 1000 gallons—all with Champion 2- and 3-stage pump 200—500—600—or 750 GPM—electric or manual hose reels from 100 to 300 ft. of ¾ inch high pressure hose. Plenty of room for 2½" hose and concealed suction. Built with equipment concealed and out of the weather.

BEFORE YOU BUY — TRY H & H — FOR YOUR BEST BUY.

H & H TRUCK TANK CO., 725 Tonnele Ave., JERSEY CITY



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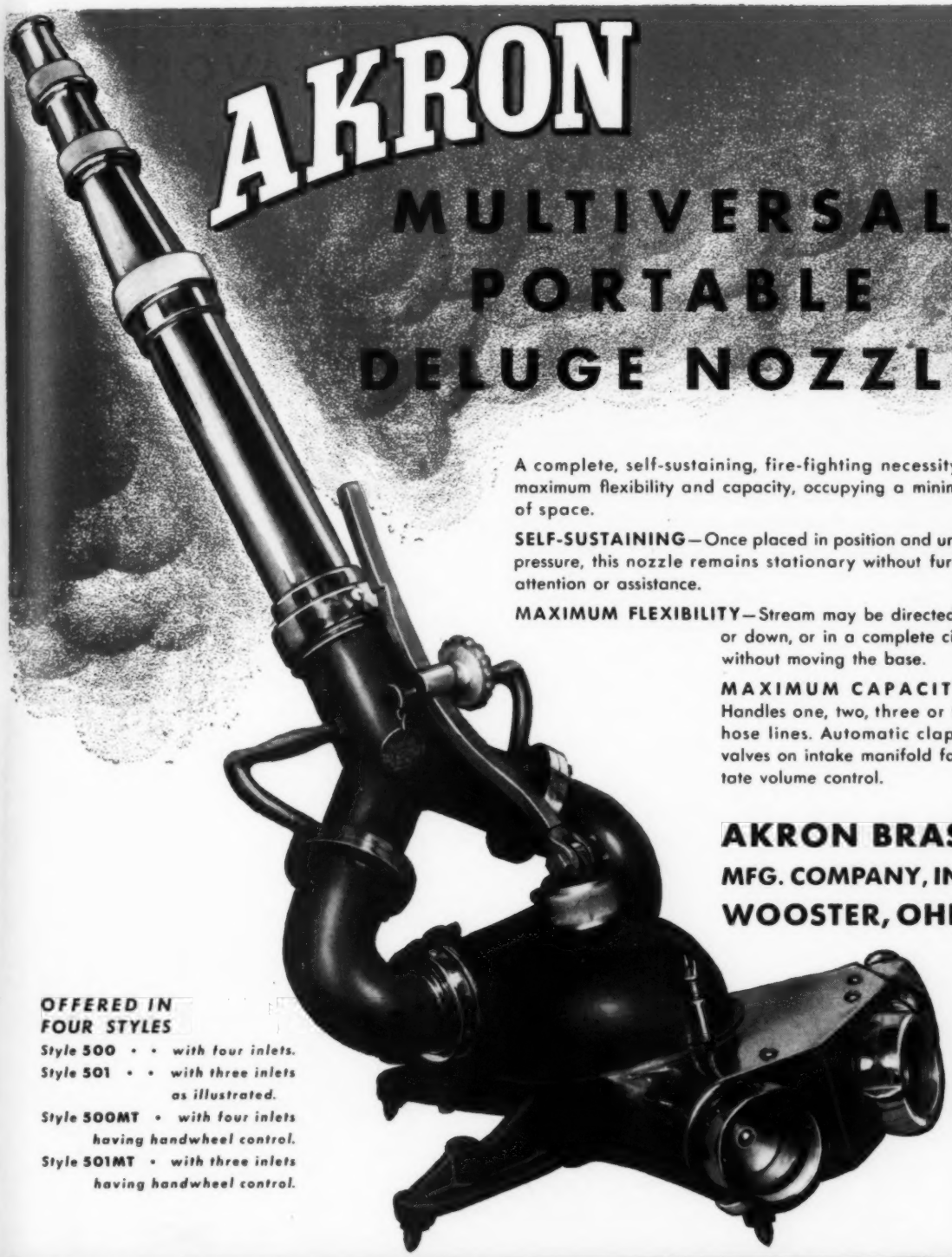
AKRON

MULTIVERSAL PORTABLE DELUGE NOZZLE



A complete, self-sustaining, fire-fighting necessity of maximum flexibility and capacity, occupying a minimum of space.

SELF-SUSTAINING—Once placed in position and under pressure, this nozzle remains stationary without further attention or assistance.

MAXIMUM FLEXIBILITY—Stream may be directed up or down, or in a complete circle without moving the base.

MAXIMUM CAPACITY—Handles one, two, three or four hose lines. Automatic clapper valves on intake manifold facilitate volume control.

AKRON BRASS MFG. COMPANY, INC.
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OFFERED IN FOUR STYLES

Style 500 • • *with four inlets.*
Style 501 • • *with three inlets as illustrated.*
Style 500MT • *with four inlets having handwheel control.*
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AKRON BRASS

FIRE FIGHTING EQUIPMENT

NOW! A NEW 800 SERIES IN YOUR FAVORITE *all Aluminum*

DUO Safety FIRE LADDERS

Here's Due Safety's answer to the need for an economically priced ladder with extra strength for rugged service. Series 800 . . . an in-between ladder in both price and performance in Duo Safety's famous line of 500 and 700 Series fire ladders. Channel rail construction of the new ladder is identical to that of the 700 Series, with the exception of the use of heavier rails.

Illustration at the right is the 2-section, 800-A Series of the new line. Other ladders and sizes are listed in specifications below.

Specifications

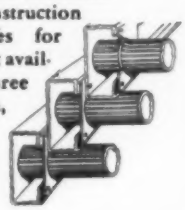
Series 800-A (two-section)	Series 825-A (three-section)	Series 850-A (Wall Ladder)	Series 875-A (Roof Ladder)
30 Ft.	30 Ft.	14 Ft.	14 Ft.
35 Ft.	35 Ft.	16 Ft.	16 Ft.
40 Ft.	40 Ft.	18 Ft.	18 Ft.
		20 Ft.	20 Ft.
		22 Ft.	22 Ft.
		24 Ft.	24 Ft.
		25 Ft.	25 Ft.

Plus

The 700 SERIES and the 500 SERIES

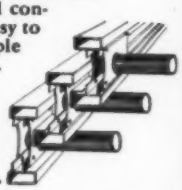
FOR PUMPER USE

The light, strong all-aluminum Channel Rail construction fire ladder series for pumper equipment available in two and three section extension, roof and wall ladders in a variety of lengths.



FOR SERVICE TRUCKS

Featuring extremely rugged all-aluminum Tubular Rail construction. Easy to handle, triple strength . . . in two and three section extensions and roof and wall ladders.



DUO-SAFETY LADDER CORPORATION
811 NINTH STREET OSHKOSH, WISCONSIN

John BEAN

HIGH-PRESSURE FOG FIRE FIGHTER

first line of defense with over 1000 fire departments!

The best in modern fire protection—that's what more than 1000 chiefs are saying about their John Bean High-Pressure Fog Fire Fighters.

John Bean Fire Fighters go into action *fast* because of quick knockdowns. Patented Bean Fog Guns, operated easily by one man, can be brought into play the instant equipment arrives at the fire.

Bean High-Pressure Fog smothers blaze quickly, with almost no water damage. Screen action of fog protects firemen as they make their entrance.

For the finest in all-around fire protection for your community—specify a John Bean High-Pressure Fog Fire Fighter. It's your first line of defense! Write today for further information.

Modernize your fire-fighting methods with this efficient John Bean High-Pressure Fog Fire Fighter. 600-gal. tank—60 G.P.M. at 850-lb. pressure—2 hose lines, each 250 ft.—2-, 4-, 6-ton chassis.

BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 126, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 409 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

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There's a new Trend in Fireboats

All over the country, the trend is to smaller, more flexible fireboats of greater pumping capacity—and General Motors Diesel power

PHILADELPHIA bought a new 75-ft. 6000 g.p.m. fireboat designed by Thos. D. Bowes, marine engineer of Philadelphia, and built by the R.T.C. Shipbuilding Co. around a GM Diesel "Quad 6" engine. She has since purchased two more similar boats, 80 feet long and equipped to throw 320,000 gallons of foam as well.

HOUSTON port officials studied Philadelphia's new boats and have since accepted delivery of The "Captain Crotty." Same designer, same plans, same power—the GM Diesel 800 H.P. "Quad 6."

ISRAEL, for the port of Haifa, now has a GM Diesel-powered boat designed by Mr. Bowes and built by R.T.C. This boat, the "Kaba'it," also carries two GM Diesel-powered 3000 g.p.m. salvage pumps.

HONOLULU T. H. has ordered a Bowes-designed boat of 87-ft. length, 9000 g.p.m. and 320,000 gallons of foam capacity, powered by a "Quad 6" and two "Single 6" GM Diesel engines. This boat is being built by Albina Engine and Machine Works of Portland, Ore.

CHICAGO recently installed two new 93-ft. 12,000 g.p.m. GM Diesel-powered fireboats. Built at Sturgeon Bay by Christy Corporation, and designed by John Alden, each boat is equipped with four 400 H.P. General Motors "Twin 6" engines and two 30 kw GM Diesel generator sets.

Smaller boats, with modern mass-production Diesel power units, obviously cost less. Rugged, all-steel 6000 to 12,000 gallons-per-minute units are being built today for *half* what cities paid for a fireboat a few years ago. Available at a minute's notice without warm-up or "round-the-clock" firing of steam boilers, these boats save thousands of dollars in fuel costs alone—money that can be spent more effectively for additional fire equipment and man power.

Compact, high-speed, 2-cycle GM Diesel engines *direct-connected* to high capacity centrifugal pumps put 800 to 1600 H.P., complete with pumps and piping, into a space not much larger than a good size living room.

With front-end power take-offs direct-connected to pumps, the full power of these versatile engines is available for both propulsion and pumping. Multiple-engine arrangement of GM "71" Diesels provides extreme flexibility and reserve capacity. One or more engines can be shut down while the others are operating.

What is *your* city doing about modern water-front fire protection? Your inquiries are invited.

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES...*Up to 200 H.P.* **DETROIT 28, MICHIGAN** MULTIPLE UNITS...*Up to 800 H.P.*

GENERAL MOTORS

DIESEL BRAWN WITHOUT THE BULK

GM GENERAL MOTORS DIESEL POWER

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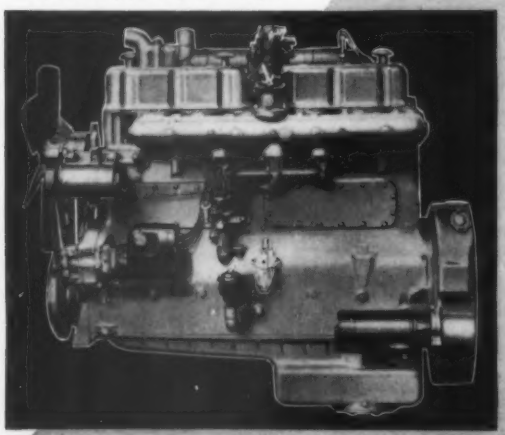

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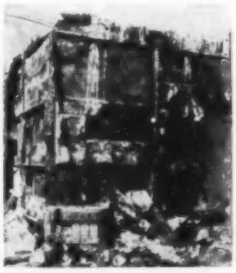

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Miss Kompa shows Fire Chief Dell how she sent the alarm.

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CHARLES A. OHLINGER, FIRE PREVENTION INSPECTOR

CITY OF READING, PENNA

The Gamewell Company
Newton Upper Falls
Massachusetts

June 1, 1950

Gentlemen:

In view of the unique circumstances attending a fire which occurred in Reading on Sunday, April 16, I am bringing it to your attention. The fire started in a pile of lumber at the rear of the Leswits Music House, 806 Penn St., and spread to the rear of the building and the Berks Furniture Company, next door. It was discovered by Mrs. Elizabeth Kressly and Miss Dorothy Kompa, employees of the Bloom Furniture Store, 812 Penn St., who were working although the store was closed.

Mrs. Kressly found the telephone was dead, the wires having been destroyed by the fire. Miss Kompa then went immediately to the Gamewell fire alarm box at Eighth and Penn Streets and sent the alarm. Properties having an aggregate value of probably half a million dollars were at risk, but we extinguished the fire in 37 minutes after arrival at the scene with a fire damage of only $1,500.00.

The prompt action of these ladies in sending the alarm, and the fact that a public fire alarm box was so near at hand, undoubtedly averted a conflagration.

Yours very truly,

Edward C. Dell
Chief, Fire Department

ESSENTIAL PROTECTION

A fire alarm box near every fire hazard is necessary to adequately protect the city.

When fire occurs use the nearest box promptly —it is the best method.

THE GAMEWELL COMPANY

In Canada: Northern Electric Company, Ltd., Belleville, Ontario

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AUGUST, 1950

FIRE ENGINEERING

VOL. 103. NO. 8

With the Editor

A Warning to All Fire Departments! If international relations do not improve suddenly, many fire departments are going to find it next to impossible to get new apparatus, equipment and hose.

At this very moment many critical materials are in short supply, such as steel, lead, copper and aluminum. And if military orders for machinery and munitions are increased, as they are sure to be unless the threat of war vanishes, the situation with regard to fire apparatus and supplies will become acute. That the materials situation is bad is clearly indicated by the current talk of allocations and controls at Washington.

Even though conditions become as bad as present indications seem to signify, the Government will likely grant priorities for fire apparatus, *but only for target areas.* Purchases for such areas will be heavy, and the armed forces, too, will probably be big buyers of fire apparatus. Together, these demands will tie up the production capacity of the fire apparatus industry. The vast majority of communities, particularly the smaller ones which are not in target areas, will be out of luck insofar as getting new apparatus, hose and other fire equipment is concerned.

A condition such as experienced in World War II, though even more difficult, is surely developing. When this nation officially entered that war, ninety-five per cent of the requests for priorities for fire apparatus were denied. The fire service was told that it had to use single jacket hose, with "Victory rubber" lining; it was told that substitute metals had to be used in place of brass and bronze in new fire departmest equipment. Should full-scale war material manufacturing be required, most cities and towns wishing to improve their fire defenses will find themselves behind the "eight ball."

While mutual aid set-ups will help target cities in the event of fires from enemy bombings, such aid cannot take the place of the protection provided the non-target community by the well equipped home-town fire department.

Even if a full scale war does not develop from present hostilities in the Far East, official apprehension for the future is certain to speed up manufacture of war materiel in the months to come. And every military truck built, every gun, every airplane, every naval craft means just so much increase in demand for critical materials and factory facilities and personnel.

If your fire department is likely to need new apparatus, hose or equipment for replacement or for preparation for wartime fires, within the next two or three years, not a day should be lost in placing your orders. A *month* saved now may reduce by *years* the delivery time for new apparatus.

Fred Shepperd

Is the Fire Service Prepared for World War III?

By FRED SHEPPERD

IT is the policy of the fire service to prepare for an emergency before it occurs. Hence it is particularly concerned with the possibility of this nation becoming involved in another world war. For, if such should take place, the fire service will have on its hand a task far greater than any before encountered; far beyond the capabilities of any of our present day fire departments. Though the fire service has made phenomenal advances in efficiency in recent years, the new weapons of warfare have outstripped these advances.

The European enemy of the last world war learned the power of massed high explosive and incendiary bomb attack. That was considered the acme of effectiveness against an enemy. However, the advent of the atomic bomb completely changes the picture.

Today, no city, nor nation, is immune from this weapon. While massed bombing attacks may not be possible across an ocean, it is generally recognized that a single plane carrying an atom bomb can be sent anywhere on the face of the earth to do its destruction. In addition to delivering the bomb by long range bombers, it is possible that the enemy may smuggle parts of the bomb into a country, assemble them into a complete bomb and detonate it at the point of assembly. Furthermore, it is generally believed that enemy submarine developments in recent years have made possible the launching of an atom bomb from a submarine lurking close to our shores.

Thus the problem takes on a grimness that is alarming.

Paul J. Larson, Director, Civilian Mobilization Office, National Securities Board, Washington, D. C., stated before the Conference of Mayors in New York in May of this year: "Our strategists tell us that in the event of war, we must be prepared for sudden and perhaps extensive enemy action against us here at home. Such enemy action would undoubtedly be intended as a surprise attack to give us little or no warning.

"No one can say with certainty just where or with what weapons an enemy would strike. The attack might be through the air or from the seas. It might take place on either or both coastlines or be an inland attack against a number of cities. The attack could take the form of or be aided by an effort at wide-scale sabotage designed to create national panic and disaster by crippling our key installations.

"After looking squarely at these problems, we can realize that 100 per cent security is not obviously possible.

"A natural question at this point which will be asked by every municipal authority in the nation is—

"Does this mean that my town, regardless of size or location, should begin its civil defense planning program today?

"The answer to that question is—YES!"

Because of its convenience, its power and the availability of the atomic bomb to the enemy, it is generally believed that this will be the principal agent used if this nation becomes involved in a third World War.

Debris-Filled Streets, After Bombing, May Make Impossible the Movement of Fire Apparatus

Effects of Atomic Bomb

It is estimated that an atom bomb of the type employed in Japan would cause complete destruction of an area of approximately one mile diameter directly below the point at which the bomb is detonated. In addition to this area of complete demolition, the blast effect of the bomb would render unusable the ordinary load-bearing brick wall buildings for a distance of seven to eight thousand feet from ground zero (the point on the ground directly beneath the point of bomb burst); would severely damage steel mill type buildings for a distance of four to five thousand feet and would cause substantial structural damage in masonry and steel reinforced buildings for a distance of 2,500 feet.

The usually dependable telephone, telegraph and electric services and transportation would cease to exist in the damaged area. Also, because of the numerous broken pipes in houses and other buildings, water pressure would fall and may seriously interfere with the operations of fire departments.

But to be a little more specific, the condition encountered in the damaged area following the detonation of an atomic bomb, would be probably as follows:

An area of one mile diameter would be demolished almost completely. The debris would take fire, and great numbers of victims would be imprisoned in the mass.

In the next half-mile band around this zone of complete damage, buildings would be severely damaged, with the fronts of most of them in the streets, partitions blown out and fires started in many through the upsetting of heat-

ing apparatus, dislocation of electrical wiring, gas mains, etc. Assuming that the bomb was dropped during business hours in the business section of a city, the streets in the damaged area would be crowded with persons fleeing the disaster. Automobiles, trucks and other motor vehicles would be burning in the streets, and subsequent rupturing of the gas tanks would cover much of the street surface with burning gasoline. It would be impossible for fire apparatus to enter such zones, both because of the congestion of persons fleeing the area and debris fallen from buildings on to the street, plus stalled and burning motor vehicles.

Up to a distance of two miles from zero point, there would be flash ignition of dry combustible materials. Thus fires would be started in an area of approximately four miles diameter by the bomb blast. Of course, there would be fewer fires proportionally as the distance from zero point increased.

Nevertheless, the danger of fires gaining headway, and consolidating at points a distance from the zone of complete destruction, would mean that avenues of escape might be cut off from the persons fleeing the area.

Should fires fully involve an area two miles in diameter, which is not improbable, then the fire department would be faced with a fire front of approximately six miles.

No fire department in this country has anywhere near the facilities or manpower to control or check a fire of such magnitude. Furthermore, with the possibility of a depleted water supply, due to ruptured piping in buildings, the situation may be even more severe.

The table herewith, which is reprinted from a booklet entitled "Damage from Atomic Explosion and Design of Protective Structures," prepared for the National Security Resources Board by the Department of Defense and the United States Atomic Commission, is interesting, as it gives the relative picture of the damage of the atomic bomb as produced in Nagasaki and Hiroshima. In the foreword to the booklet, the authors state, "This report assesses in general terms certain effects of atomic weapons. It deals particularly with the damage an air blast would cause to various types of structures and buildings, and building contruction to resist these effects."

From this table it will be noted that at 2,000 feet distance from zero point (the point on the ground directly beneath the bomb blast) reinforced concrete building collapsed, 10-inch walls, 6-inch floor. At 3,000 feet, virtually complete destruction of all buildings occurred, other than reinforced concrete anti-earthquake design.

At between three and four thousand feet, 18-inch brick wall was completely destroyed.

At between four and five thousand feet, steel frame building was destroyed and light concrete buildings collapsed; 12-inch brick wall was severely cracked.

At 6,000 feet there was severe damage to the entire area; severe structural damage to steel frame buildings; nine-inch brick walls moderately cracked.

At 8,000 feet, severe damage was done to homes, with heavy damage to window frames and doors, and foliage was scorched by radiant heat.

At 10,000, feet, blast damage was done to majority of homes; also severe fire damage. Flash ignition occurred of dry combustible materials.

The hazards of radioactivity have not been mentioned in the above, for it is now generally believed that such hazards are far less than originally reported. Furthermore, monitoring teams are in the plan of civil defense, and these teams will determine whether or not the area is safe for operation by fire fighting or other rescue units following the dropping of a bomb.

It has been asserted by those who are in a position to know that if the bomb is burst in the air, the problem of radiological hazards would be negligible, and should not interfere with the operations of the fire department at any point to which they may be able to approach with their apparatus. Nor will it interfere seriously with the rescue of those who may be trapped in buildings outside the zone of complete destruction

Wind velocity (mph)	*Duration (sec)*	*Overpressure (psi)*	*Miles*	*Feet*	*Damage*
					Limit of light damage at 8 miles.
50	1.25	1.5		12,000	Light damage to window frames and doors, moderate plaster damage, complete window damage.
			2.25		
60	1.23	1.7		11,000	Flash charring of telegraph poles. Roof and wall covering on steel frame building damaged.
			2.0		Partial damage to structures in area.
70	1.20	2.0		10,000	Blast damage to majority of homes. Severe fire damage expected. Flash ignition of dry combustible materials.
			1.75		
80	1.15	2.4		9000	Heavy plaster damage
					Moderate damage to area.
100	1.12	2.9		8000	Severe damage to homes, heavy damage to window frames and doors, foliage scorched by radiant heat.
			1.50		
125	1.06	3.6		7000	
					Structural damage to multistory brick buildings.
			1.25		Roof tiles bubbled (melted by heat).
160	0.98	5.2		6000	Severe damage to entire area. Severe structural damage to steel frame building. 9-inch brick walls moderately cracked.
					Electrical installations and trolley cars destroyed.
			1.0		Multistory brick building completely destroyed.
200	0.90	7.4		5000	12-inch brick walls severely cracked.
					Steel frame building destroyed (mass distortion of frame).
					Light concrete buildings collapsed.
270	0.77	10		4000	Reinforced concrete smoke stack with 8-inch walls overturned.
			0.75		
					18-inch brick walls completely destroyed.
380	0.62	16		3000	
					Virtually complete destruction of all buildings, other than reinforced concrete asesmic design.
			0.50		
550	0.45	24		2000	Limit of severe structural damage to earthquake-resistant reinforced concrete buildings. Reinforced concrete building collapsed, 10-inch walls, 6-inch floor.
					Mass distortion of heavy steel frame buildings. Loss of roofs and panels.
			0.25		
800	0.37	36		1000	Decks of steel plate girder bridge shift laterally
				0	Air Burst of an Atomic Bomb.

Mutual Aid

As stated above, no fire department in the United States is equipped to handle the emergency brought about by the detonation of an atomic bomb over the community. There would be nowhere nearly enough apparatus and personnel available, even if the water supply held up.

The only answer to successful defense against fires originating from atomic bombs is mutual aid on a wide scale.

Such mutual aid includes the integrat-

Nagasaki After Atomic Bomb Attack

In this area, right in the center of where the bomb hit, everything has been flattened, and only masses of debris tell of the buildings which formerly stood there.

ing of all departments in an area in such a way that they can be called in as units of a single department in the event of a disaster. It also includes the provision for keeping certain arterial highways open for rescue and fire fighting operations. When the population of a city is fleeing in panic, unless such highways are maintained solely for the rescue forces, it would be impossible for mutual aid systems to function.

And in speaking of mutual aid, it must be mutual. Cities must keep their own fire departments up to full strength if they expect to have neighboring communities come in with fully manned companies and modern apparatus.

In setting up a mutual aid sytem, it is essential that an inventory be made of all fire departments within the state, including such information as the number and capacity of fire engines, rescue and emergency trucks, ambulances, ladder trucks and other special mobile apparatus; forcible entry equipment, demolition equipment; cutting torches; compressed air equipment; fire hose, etc. There should also be included full information on the type of couplings on hose and various fittings of the department; and where information so indicates, apparatus should carry adapters to make possible the use of apparatus and equipment in neighboring departments where non-standard threads are employed.

Today, few fire departments normally maintain full company strength. It is imperative that the following table of strength of companies be maintained in paid fire departments in the larger cities if war is in the offing:

COMPANIES	LEAST NO. OF MEN ON DUTY
Districts:	
Within or Near High Value	
Pumper Company	7
Hose Company	6
Aerial Ladder Company...	7
Service Ladder Company..	8
Pumper-Ladder Company.	10
In Other Districts:	
Pumper Company	5
Hose Company	4
Aerial Ladder Company...	6
Service Ladder Company..	6
Pumper-Ladder Company.	8

This table is the one established by the National Board of Fire Underwriters and the International Association of Fire Chiefs, and has been found over the years to be a very practical and effective guide in company strength.

In recent years the shortening of hours of duty of the fire service by a shorter work day or by the adoption of two and three platoons, has brought about a serious undermanning of companies responding to fires.

Where a city is incapable financially of maintaining such company strength, it may be feasible to employ on-call or volunteers to build up the manpower to assist in emergencies. Because these on-call firemen, or volunteers, are usually available only part of the day, it is necessary to have a greater number of them qualified (approximately 6 to 1) than would be expected to serve at any time. The professional fire force should, of course, remain the backbone of the fire fighting organization. On-call or volunteers are suggested only where a municipality is unable to employ the required number of full-time, paid men.

Replacement of Apparatus

No large fire department today is without its share of obsolete fire apparatus. Fifty-three per cent of all pumpers in the fire service today are fifteen years of age or older, as indicated by a survey recently made by FIRE ENGINEERING. Ordinarily, a fifteen-year-old pumper is considered as obsolete. Of ladder trucks, nearly one-half have reached their fifteenth year of service.

It is vital that cities survey the situation with respect to number, age and dependability of apparatus and make plans for immediate replacement of the old units.

Hose Needed

At a huge fire such as brought about by atomic bombing, and representing a continuous front of thousands of feet, it would not be possible to secure enough hydrants close to the fire front to utilize only short stretches of hose. On the other hand, the majority of lines must of necessity be of considerable length, especially so when the water system is incapable of supplying the fire department, and auxiliary sources must be tapped at remote points. Because of the large number of long lines of hose which must be used, it is necessary to have pumpers of considerable power in order to deliver water through these long lines and overcome friction loss and give satisfactory nozzle pressure.

Where long lines of hose are being stretched from normal water supplies, or where emergency water supplies are being tapped, a fire company must have far more hose than it carries for peace-

Nagaski, Japan, Four Years After Atomic Bombing. Frame and Temporary Structures Have Replaced Well-Built Buildings Which Were Demolished by Blast and Fire

time use. If provision is being made for utilizing neighboring bodies of water, where fire streams are to be furnished through long lines of hose, large diameter hose is imperative.

It is essential that each fire department check its local fire control problem assuming the failure of the water system due to bombing attack, and on this basis determine the quantity of hose required to deliver water in sufficient quantity from the nearest available supply for effective fire fighting operations.

Replacement of Fire Stations

The majority of fire stations in service in the country today, particularly in the larger cities, were built in the days of horse-drawn apparatus. Relatively, they are of insecure construction, and could be counted upon to be among the first buildings to collapse due to atomic bomb attack. Because of this serious weakness, and the danger of incapacitating the large percentage of apparatus and men through collapse of fire stations, it is highly necessary that serious thought be given to replacing, at the earliest date, these obsolete stations with ones of sturdy design.

Communications

Radio has proven a tremendous asset to fire departments, and as a supplement to fire alarm telegraph systems in the event of atomic warfare, it will prove even a greater asset. Telephones are vulnerable and their inadequacy in the event of a catastrophe is generally acknowledged.

With regard to the importance of radio, picture a fire front of six miles—six miles of buildings all burning at the same time; for that would be the approximate perimeter, the circumference of the area involved by fire following the explosion of an atomic bomb.

How could the chief in command of a department secure an accurate picture of what is taking place at every point along this front, and be appraised of every significant change as rapidly as it occurs, without a comprehensive system of fire department radio and a capable control center. Yet, how many fire departments have such a system, or could organize one in time, should there be but short forewarning of enemy action.

One of the first steps which should be taken immediately by fire departments is to secure fire department radio wave length allocation, if such has not already been secured. Then set up the radio system, fully equipped organized control centers, more than one, for in the event that one is knocked out, the system will then not be incapable of functioning.

Furthermore, it is desirable to install mobile field radio communication units, which may be moved about and serve as local control centers.

However, in order for such radio systems to function satisfactorily, it is very necessary that they be set up and put in operation as early as possible. It will take many months to get control centers functioning in such a way that they can serve with full effectiveness in the event of wartime bombing.

Incidentally, for information on the allocation of wave lengths, the International Association of Fire Chiefs, 22 East 38th Street, New York 16, N. Y., and the International Municipal Signal Association, 11 West 42nd Street, New York 18, N. Y., are in a position to advise on this matter.

Water Supplies

The question of water supplies, both regular and emergency, is being given attention at this time by various organizations affiliated with the field. It is hoped that this phase will advance as rapidly as the fire fighting end.

Fire Guards

If we assume the principal enemy weapon to be the A-Bomb, fire guard organizations are a "must." Flash ignition of dry combustible materials at distances up to two miles means that there will be fires started this distance from zero point of the bomb detonation. Serious damage to structures, even steel frame buildings up to one-mile distance from zero point, means additional fires from displaced, upset or damaged heating equipment, electric wiring, gas piping, etc.

The simultaneous start of thousands of fires from such sources creates a task that no peacetime fire department could begin to cope with. The majority of these fires will be small and could be quickly controlled with little water if promptly applied.

A fire guard organization covering every building in a city, and with proper first aid equipment, backed by practical training in the use of such equipment, would provide the means of controlling a vast number of these fires. Every fire checked by the fire guards is just one less fire on which the regular fire department would have to operate.

To sum up, the fire service at the present moment would be in a bad way if a war should start suddenly and enemy action be taken against cities in this country.

To make matters worse, every month's delay in bringing departments up to full strength means just so much greater difficulty of finally getting the equipment and apparatus needed.

Most fire chiefs still remember the great difficulty encountered in securing priorities for apparatus, for double jacketed hose, for brass couplings and brass fire appliances, during World War II. A representative of the International Association of Fire Chiefs who worked in securing priorities for hose was informed that the Army, Navy and other wartime agencies required 25,000,000 feet of fire hose the first year. This demand alone was far more than the capacity of all fire hose manufacturers in this country; and to stretch the available supply of cotton yarn and rubber, fire departments were told they would have to get along with single jacket hose lined with "victory rubber." Even with these restrictions, hose could not be secured except after a long wait.

Fire apparatus, too, was under priority and, at the start of the war, but five per cent of the cities asking for apparatus were granted priorities; the other ninety-five per cent had to wait.

It was only through the efforts of the International Association of Fire Chiefs that this matter was finally cleared up after a year's hard work.

Thus if a fire department today is below par in apparatus and equipment, the time is already at hand when immediate action should be taken upon making improvements. It is significant that steel, copper, lead and zinc are right now in short supply, with but very little war manufacturing being done. If and when greater war activity on the part of factories is instituted, the situation insofar as getting new fire apparatus and equipment will be grim indeed.

Fires from Incendiary Bombing Showed No Respect for Building Types in Tokio. The Tremendous Fire Damage Done to This City Shows the Inadequacy of Ordinary Peacetime Fire Departments in Fighting Wartime Fires

"Fire Traps—With Ivy"

With Classroom Space At A Premium, Can Colleges Risk Using Known Fire Traps? Costly Haven Hall Fire At University of Michigan Fails To Answer This Dilemma of Modern Education.

By WILLIAM BENDER, JR.

FOR eighty-seven years, Haven Hall at the University of Michigan had been a focal center of campus activity and a sentimental landmark for visiting alumni. There was little sentiment, however, in the eyes of Fire Chief Benjamin Zahn on the afternoon of June 6. Haven Hall was going up . . . and fast!

Zahn studied the tongues of flame that had already burst through the slate roof to go roaring thirty feet into the sky. Mentally he traced hose lines snaking into the building and measured the approximate positions of the men at the nozzles. Then back to that spouting column of fire and smoke. From the looks of it, that roof would collapse any minute. He'd better get the men out of there.

Six hours later Haven Hall was a black, water-soaked monument to a dilemma of modern education. The problem is one which may continue to go unanswered for years to come. It seems to boil down to this: At what point does the remote *possibility* of fire and its attendant hazards counterbalance the tangible opportunity of educating new generations of students?

In short, is the educational "bird in the hand" worth having if you must risk fire and death " . . . in the bush?"

During the six hours that were going to demolish Haven Hall, two men of Chief Zahn's Ann Arbor department would glimpse the speed with which Death can confront you in a flaming building; a third man would receive a leg injury that would cripple him for weeks; others would suffer burns and "minor" injuries which would leave lifetime scars; and still others would undergo the stifling agony of smoke poisoning.

In that same time, over four hundred students and faculty would have been in temporary jeopardy. An irreplaceable library would be swept by flames. Research notes and writing totalling a hundred years of human effort would vanish with a tiny puff scarcely visible in the larger conflagration.

Small wonder that Chief Zahn, Assistant Chiefs Ernest Heller and Harold Gauss, and University officials themselves wondered that afternoon if education was really worth it.

Examinations Under Way

Haven Hall contained the main offices of the Journalism, Sociology and History departments, along with classrooms, lecture halls and the Bureau of Government Libary. Since mid-afternoon of the 6th, the building had been uncommonly quiet. Some four hundred students were concentrating on final examinations. One of the students straightened up and rubbed his neck. "I smell wood burning," he muttered, and those around him smiled as at an old, old joke. He turned his attention back to the exam.

No one looked up as another student walked in from the corridor. He glanced through the room, spotted the professor.

"I think you'd better leave. Your building is on fire."

Delayed Alarm

The alarm was registered at 4:40 p.m.

Earlier in the afternoon, there had been fire call from the Alumni building on the campus. A burning wastepaper basket had been extinguished by the time the apparatus arrived. Nevertheless, Zahn responded to the 4:40 alarm with the standard equipment designed to cover the high value areas in Ann Arbor. These are a 75-foot aerial ladder truck, a 750 gallon pumper, a 1000 gallon pumper and a combination high pressure and service ladder truck.

Assistant Chief Harold Gauss rode with the apparatus. Arriving at Haven Hall, he glanced upward through the heavy growth of trees in time to see fire just breaking through the roof. There was a two-way radio installed in the high pressure truck and Gauss reached for the microphone.

Meanwhile Zahn had arrived in his Chief's car and had recognized that the fire had had a considerable start. Subsequent estimates timed the actual be-

This Was a Library
Salvage operations begin in the second-floor Bureau of Government Library. Many of the books and pamphlets were the only copies known to exist.

Morning After
With occasional flare-ups still being fought back, Haven Hall looked like this on the morning of June 7th. Shown also is some of the metal scaffolding that hindered fire fighters during the blaze.

ginning of the fire as much as one to three hours before the alarm was turned in. The afternoon had been warm and still. It was believed that the tell-tale smoke had risen straight up during those hours, concealed from chance observers by the heavy growth of foliage.

But with the blaze under strong headway, Zahn had no time for speculation. He radioed back to the station house for the extra thousand-gallon pumper, and then went to work.

This Was a Research Office

Some twenty hours after the fire, workmen found documents still smouldering within metal filing cabinets. This is part of the Bureau of Government on the second floor of Haven Hall.

He immediately ran into trouble.

Years before, the University had installed a system of high-pressure hydrants around the campus with a special water supply and pumping set-up. Subsequently this had been changed over to the regular city water supply and the pressure pumps went out of use. The old pressure hydrants, however, had never been replaced. As a result, special adaptors are needed whenever the city apparatus draws water from campus hydrants. Two awkward, time-consuming operations are necessary to attach the adaptor to the hydrant. More than five minutes went by while the pumpers waited for water. And, after the delayed call to Haven Hall, every lost minute virtually doubled the fire-fighting job to be done.

During this time that the crews were laying out line and struggling to fit adaptors onto rusty hydrants, Chief Zahn surveyed the entire situation.

Haven Hall was 3 stories high and some fifty feet deep. Blankets of flame waved upwards from the center of the two hundred foot long roof and the fire was working toward both wings with equal speed. Immediately south of Haven Hall was the nearest exposure, a scant ten feet away. This was the stone and brick wall of a five-story classroom and office building. Some thirty-five feet to the northeast was the Natural Science building, the second closest exposure.

Zahn placed his aerial truck directly to the east of Haven Hall and prepared to use it as a water tower. He decided to attack the south end first; despite the absence of wind, the ten-foot exposure in that direction presented a serious hazard. A three-inch line running up the ladder was equipped with a 1½-inch nozzle and drew water through a siamese coupling from a pair of 2½-inch lines out of the 1000 GPM pumper.

The pumpers had finally overcome their adaptor troubles and were drawing water from the University hydrants. The second pumper was feeding water through another pair of 2½-inch lines into a deluge set. This, too, was directed against the south end of the building. Meanwhile, the third pumper had arrived. It brought three additional lines into action. Also a 500-gallon O.C.D. trailer pump owned by the University had come up and begun to play its two lines against the blaze in the center of Haven Hall.

Repairmen working on the building had erected roof-high tubular metal scaffolding along the entire east and north sides of Haven Hall. This maze of metal proved to be a severe obstacle to firemen attempting to get hose lines up fire escapes and into the building.

The fire had already swept the attic from end to end and was completely out of control. Flame broke through a skylight and attacked the roof on the south wing. Within minutes the entire roof was ablaze. A towering pillar of smoke announced the fire to observers for miles around. In Ypsilanti, some ten miles away, Chief James Digan had his force alerted in case of need.

Additional Manpower Required

But Chief Zahn already had more equipment than men to handle it. Eleven hose lines were in action. Four of these were tied up with the deluge set and the aerial ladder. Each of the seven hand lines was vitally important, but there were not enough trained men available to handle them properly.

Zahn radioed back to headquarters and told the man on watch to call out the off-shift and have them report.

The four hundred students driven from the building had been joined by hundreds of others. Some were trying to salvage office equipment and records from the ground floor offices; others volunteered to help combat the fire, and were put to work on the outdoor lines and nozzles.

The radio was also busy calling local and state police reinforcements. The crowd of spectators had grown to unprecedented numbers. At about six o'clock, Police Captain Rolland Gainsley estimated that 20,000 students, faculty and townspeople were watching the progress of the battle.

The professional fire fighters had no end of praise for the work of the students. "They were splendid," said Zahn later, "and I don't know what we could have done without them."

"Volunteers," commented Assistant Chief Heller, "too often quit when the excitement is over. But not these boys. At 2 a.m. many of them were still around, dog-tired, soaked to the skin, and helping me pick up hose. For my money, they don't come any better than that."

Throughout the course of the fire, local radio stations including the University-owned WUOM, carried up-to-the-minute bulletins about the fire. Emil Dammon, retired assistant chief of the Ann Arbor department, heard about the blaze and opined that Zahn could probably use another experienced man. Dammon made his way to the scene unannounced. He was discovered some time later helping one of the new men get the last ounce of pressure out of a fractious pumper.

Some of the student volunteers let their enthusiasm get the better of them. Called upon to get a line closer in to the building, they gave a spirited tug . . . and pulled the hose right out of its coupling at the pumper.

Another student group, excited by the prospect of a flare-up in the north wing, sought additional lengths of hose. In coupling these into the line, they pulled the ultimate "boner." They fastened one end to the other! For the space of several minutes they were hauling across the campus a complete circle of hose.

As the fire dropped from the attic to the third floor, it burned even more furiously. The all-wood interior construction was coated with an eighty-seven year accumulation of paint and varnish, and the timbers flared like giant torches. Men were sent up the outside fire escapes to combat the fire.

The rooms and corridors were choked with dense yellow smoke. Flaming beams from the attic canted downward at weird angles and spread the fire. Frequent crashes echoed the destruction taking place on all sides. No one could tell just how far the fire had progressed.

(*Continued on page 709*)

Smoke Clouds Over the University of Michigan as 87-Year Old Haven Hall Goes Up in Flames. Clock on Carillon Tower Shows 5:15—Just Twenty-Five Minutes After Alarm Was Given—And the Entire Roof Is Ablaze

Simultaneous Fires—Cause for Concern in Every Department

No Fire Department, Large or Small, is Immune —None Should Fail to Anticipate Them

By ROI B. WOOLLEY

Editor's Note: **The loss of life and property by fire may fluctuate month by month and year by year, but throughout the nation as a whole the number of fires and of multiple-alarm fires, shows a consistent increase.**

This increase constitutes a continual threat to the fire service; it is only by staying 'on top' of these increasing fires that the nation's fire losses are being held within the limits that they are. Sometimes this is impossible as, for example, when Fate sets the stage by giving a fire department more than a single serious fire to fight simultaneously.

This study of simultaneous fires would be timely, even were the fire forces of our country not facing the threat of another world conflict; but with the possibility of such a war, and of bombing attacks on our shores on a most devastating scale, the subject of meeting the simultaneous fire problem takes on added importance.

In submitting the several examples of simultaneous fire fighting operations described later, the author emphasizes the fact that these are by no means the only outstanding instances of such fires. Every reader of this message can supply similar instances—if perhaps on a lesser scale but nonetheless potentially dangerous—that have occurred in his own experience.

The author gratefully acknowledges the assistance of W.N.Y.F., the official publication of the New York Fire Department; "Fighting Fire" by Chief John Kenlon, George H. Doran Co., 1913, and reports of numerous fire chiefs to this Journal.

FEW things are more nerve-racking to the officer in charge of a fire department than the possibility or threat of having to fight another serious fire coming hard upon the heels of a blaze that is occupying all, or most of the fire fighting strength of his community.

Every veteran fire officer has experienced this anxiety—and nearly every one has seen his fears realized, and has had to combat such simultaneous fires. All told, it is an experience few officers ever care to encounter again.

It has been said by the uninitiated that there is nothing to fear from the simultaneous fire in cities where there is adequate fire protection facilities; where, as one critic expressed it: "all a chief has to do to get all the help he wants is to keep pounding the key."

The author of this study has interviewed chief officers in cities large and small wherein to the average person there exist ample fire protection forces and has never yet found a single officer who is inclined to discount the threat of simultaneous fires, regardless of the resources and reserves at his command. To most of them the terms "adequate" and "ample" are imponderables, words without meaning when applied to today's profound and provocative business of fire control and extinguishment.

Unfortunately, there are no statistics available to attest the frequency and severity of simultaneous fires throughout the nation. It is a tribute to the fire service of the country that although few municipalities and communities do escape having simultaneous fires, over long periods the fire forces have managed to keep 'on top' of these emergencies. Yet almost without exception, every fire officer who has been called upon to meet these multiple emergencies has known how very narrow was the gap between successful control and conflagration. In the vernacular of some of these chief officers: "we got the breaks!"

When the simultaneous fire occurs, and the fire department fails to "get the breaks," the story is different—and sometimes more tragic.

Somebody once said that most conflagrations are not directly attributable to any one single thing but usually are the net result of "a combination of things that went wrong." Which, if we may believe the history of conflagrations, is correct. However, of all the "things that can go wrong" at a fire, about the worst is having another coincidental blaze materialize, and develop into serious proportions. Such a situation came about in Atlanta, Ga., on May 21, 1917.

At a time when almost the entire Atlanta Fire Department was engaged in fighting two other fires, one in a large Atlanta cotton warehouse and the other involving six dwellings in the West End, another fire broke out in a storage warehouse on Decatur street and burned several blocks of small houses, then jumped over some brick buildings to ivolve the better residential areas. Fifteen hundred buildings, most of them wooden dwellings in the northwestern section of the city were destroyed, representing a property loss of over $3 million.

Despite the use of dynamite, and mobilization of all possible area fire forces, a path of ruin six blocks wide and twenty-four long was burned in the city. Help came, eventually from the U. S. Army, from Knoxville (194 miles distant), Nashville, Chattoonaga, Greenville, S. C., Macon, Ga., and other cities. These outside forces, locating in Atlanta's fire stations, were able to extinguish a number of smaller fires that occurred

After Earthquake and Simultaneous Fires Had Wrought Destruction in San Francisco

Many "simultaneous" small fires, starting after the earthquake of April 18, 1906, merged to devastate the great city with loss of approximately 500 killed and 28,000 buildings destroyed with property loss of $350,000,000.

during the conflagration, which it is doubtful if the exhausted Atlanta fire fighters could have handled.

That this was not an exception in the contributory causes of large conflagrations, is attested by records in the N.F.P.A. "Handbook of Fire Protection" on "The Principal Factors Contributing to Conflagrations in the United States and Canada since 1914." In the list of causes, which total 21, the factor "Fire Department at Other Fires" appears as number 14 in the list. In at least four major conflagrations simultaneous fires were quoted as contributing cause.

Actually, the conflagration picture relates more closely to the problem of simultaneous fires than this. One has only to study the history of numerous great fires, and how they were fought, particularly those back in the wood shingle roof era, to realize that in a large percentage of them the "conflagration" actually developed as a result of numbers of small individual fires which in turn were born of a combination of wind and flaming embers on conbustible roofs and material. The individual fires were simultaneous fires which proved beyond the abilities or facilities of the respective fire forces to cope with them.

Whether offshoots of the main, major fire or having no relation with it at the start, these individual fires in some cases aided by other "breaks" which went against the fire fighters proved greater than the fire defenses that could be set up against them.

The possibilities of conflagration, or multiple conflagrations, due to coincidental fires are always with us, whether ours is a tiny cross-road hamlet or a large metropolis. But it must be admitted that conditions are today generally more favorable for their control than they were not so many years ago. For one thing, where fire formerly got the breaks (i.e., the shingle roof; inadequate water supplies; inadequate public protection and the like), today these handicaps are not so much in evidence and fire fighters are getting the breaks; in addition, much of the nation has well developed cooperative, mutual aid plans in operation. Also, motorized fire apparatus, better roads faster communications, better highway police protection, and better firemanship training aid present-day firefighters to meet emergencies.

It is possible that an all-out, atomic and guided missile war, if it eventuates, might revise all these conditions and set the fire service, and the nation, back to pre-war years for sheer destructiveness. But the possibility of wartime simultaneous fires caused by enemy attack, is not the subject of this study.

High Pressure and Sprinkler Systems Two Great Assets

Two standby assets of modern fire protection have unquestionably aided the fire service to meet the threat of simultaneous fires. These are the high pressure and sprinkler systems, so widely installed in American municipalities.

It was sprinkler systems that helped arrest the spread of the New London hurricane conflagration; sprinklered property has enabled firemen to make stands in other conflagrations, while dispatching other equipment to cope with simultaneous fires. Unquestionably sprinkler protection is the equivalent of additional reserve fire companies, when it comes to meeting large scale emergencies created by simultaneous fires.

The same may truthfully be said of the municipal high pressure water systems. Speaking about his city's then newly inaugurated H.P. system, New York's late Fire Chief John Kenlon said: "Many outbreaks now-a-days are fought and conquered with a second alarm assignment, which, before the advent of the high pressure system, would have required a fourth alarm, a fact which, trivial perhaps to the lay mind, will be appreciated by Chiefs of Fire Departments in its full significance. No doubt, the latter have often realized the danger of having to draw almost every piece of apparatus at their command to a big fire, leaving nothing in reserve with which to tackle another outbreak should one then occur. Simultaneous calls of this nature tax the wits of man to meet, and the days of miracles are past. The first fire can be fought and quelled, but the second, coming when the force is already engaged, forms a very serious menace."

Chief Kenlon mentions, in support of his contention, an episode which occurred soon after the installation of the City's high pressure system, which convinced for all time the skeptics who doubted the efficacy of the then so-called "modern improvement."

New York's Triple Threat

The baptism of the city's H.P. system, placed in service July 6, 1908, came in the form of three great fires within a 90-minute period. This was on January 7, 1909.

The night of January 7th was cold, the thermometer registering 19 deg. F. The wind was cutting. Shortly before 7:30 P.M., a pedestrian discovered a fire in the Lipton Tea Building at 96 Hudson street, Manhattan, and pulled Box 122.

His discovery set the stage for as hectic a night as New York firemen ever will want to see. By 9:00 P.M., lower Manhattan was alight with three separate and distinct greater-alarm fires taxing the courage and resourcefulness of 600 fire fighters, and their new and still unproved "toy"—the H.P. System.

Fire No. 2 broke out at 113 Bowery near Hester street, while the Lipton fire was assuming fourth-alarm proportions. This fire, across from the People's Music Hall, where an audience of 800 were enjoying a variety show, developed into a third alarm.

Meantime, signals were tapping in for the third big blaze, at 600-02 Broadway, near Houston. Sensing the critical nature of the emergency created by these blazes, Chief Edward F. Croker, then head of the fire department, sounded a fifth alarm for this outbreak. All of these fires, it should be remembered, were within a one square mile area in the city's high value district.

The fire in the 6-story Lipton Building, stocked with tobacco and tea, starting in the basement, burst through the roof, later piercing a fire wall. The four alarms brought 16 fire department

Trio of Harlem Blazes Give New York Firemen Hectic Afternoon

Within the space of a few hours on January 9, 1945, firemen of upper Manhattan and lower Bronx fought three multi-alarm fires. In the first, a 6-story warehouse, two firemen were killed. A total of 21 engine and ladder companies, two towers and other units operated on this 4-alarm blaze. While this was ringing, three alarms were struck for a fire in a 5-story furniture manufacturing plant. A total of 8 engine and 3 ladder companies finally controlled this fire. The third blaze, in a 5-story tenement, involved two upper floors and communicated to adjoining tenements before being controlled by 7 engine and 4 ladder companies. All fires were outside the high pressure zone. Assistant Chief of Department John J. McCarthy was in charge at the two first fires and Deputy Chief J. T. Waldron, at the tenement blaze.

units—but not a single steamer went to work. High pressure streams from two water towers, deck guns and hand lines poured tons of water into the structure.

Explosions of spirituous liquors spread the fire which, when the roof and one of the walls came down, threw clouds of blazing embers over a wide area. Brands threatened the nearby Hudson Street Hospital, but its patients were not evacuated. A water curtain saved the exposed grocery house of J. B. Smith & Co. which, had it ignited, according to Chief Croker, might have taken the entire wholesale district.

The pressure on the new system was increased to 175 lbs. at 7:35 P.M. and to 225 lbs. at 7:42 P.M., as additional streams were aimed on the fire. Only a few minutes later, at 7:54 P.M.—and soon after the fourth alarm was transmitted, box 169 was received at fire headquarters for the fire eating into the interior of a 6-story loft building on the Bowery near Hester.

Starting on the second floor in bins of a crockery concern, the fire had possession of that and the third floors when the first companies rolled in. Stocks of hay packing, cigarette papers, and unfinished clothing gave off noxious smoke, and firemen stretching from the nearest H.P. hydrants into the structure took a nasty beating. Fifteen tailors at work on a fifth floor sweatshop had a narrow escape. Twelve reached safety via a rear fire escape; three chose the front and only reached safety by crawling along a ledge, protected by fire streams, to an adjoining building, from which firemen later rescued them.

Deputy Chief "Smokey" Joe Martin sent in second and third alarms soon after he arrived and the struggle to confine this blaze was waged, using hand lines from the 3rd Avenue "El"; heavy streams from deck pipes and deluge sets.

At 8:17 P.M.; even before the second alarm for the Bowery fire had been sent out, a shivering policeman was surprised to see a locating company roll up to take a hydrant a few feet away from the 6-story loft building at 600-02 Broadway. The uptown steamer had rolled in response to an automatic alarm from a millinery and lace concern located on the third floor. Before a line could be advanced, the fire blew out a window and vented itself. Firemen immediately pulled street box 237. Within 30 minutes, five alarms had to be transmitted for this new blaze. Here, too, the fire worked its way up shaftways and stairs and soon flared into the sky.

Chief Croker reported later that the fifth alarm was transmitted for this fire not for pumpers, but to insure the needed manpower. Steamers were present and ready for operation but the flames were fought entirely with the new High Pressure lines. Twenty of these streams tore into the building from all sides, beating the fire down and holding it.

Records later showed that all the blazes had been fought with four pumps at the Oliver Street Pumping Station and three at the Gansevoort Station, discharging 33,500 G.P.M. against an average pressure of 205 lbs. at the hydrants. A total of 14,095,000 gallons were delivered.

Of added interest is the fact that in the period between 7:21 P.M. and 9:11 P. M., when fire fighters had these three blazes under submission, a number of other fires in the same Borough were extinguished by the department. Thus the episode not only proved the prowess of the High Pressure System, but it attested the fact that experienced fire alarm dispatchers and operators, utilizing what was then the latest telegraph wire communications and predetermined assignments and re-locating strategy could be a match for any such emergencies.

JANUARY 8, 1942
DISPATCHER'S RUNNING SHEET

A.M. Time	Signal	Engine Companies	Boat	H. & L. Cos.	C of B	Special Units
4.03	785	2 34 54 26		21 4	9 7	
4.37	783	— — — —	85	— —	— —	
4.37	5-783-65	65				
4.38	7-783-24			24		
4.38	4-783-8				8	
4.39	766	— — — —		— —	— —	W.T. 3
4.40	5-766-1	1				
4.40	7-766-12			12		
4.41	4-766-6				6	
4.49	22-783	— 19 — 40 3	86	—		Res. 1—S.L. 1—W.T. 3*
4.50	7-783-35			35		
		Relocations on 22-783 47 to 2; 55 to 1; 44 to 65; 76 (1st) to 3		22 to 21; 30 to 24		
4.56	33-783	21 23 8 14 74	57	—	6*	Amb. 1—G.O.W. 1
4.57	7-783-2			2		
4.58	17-2-26			26 (1st) to 2 25 to 35		
		Relocations on 33-783 59 to 23; 80 to 74; 53 to 8	77 to 85; 66 to 57			
5.06	44-783	16 18 72 24 56 5 1*		12	5	
		Relocations on 44-783 91 (1st) to 16; 27 to 18; 15 to 5				
5.13	55-783	30 39 33 25 28 13		2		
		Relocations on 55-783 203 to 30; 7 to 33; 35 to 39		26 (2nd) to 2		
5.37	1588	— 69 —		30 28	16 14	
5.55	208	9 — 17	57	6 18	2 4	
5.58	1489	37 58 36		40 30	16	
6.50	3-352-1	— 30 —	57	5 —		
6.51	4-352-3				3	
7.04	553	18 — — 3		3 —	— 7	W.T. 2
7.11	22-553	— 5 1 33 —		—		
7.12	7-553-24			24		
		Relocations on 22-553 76 (2nd) to 3		4 to 5 18 to 3		
7.13	44-553	— — — 16 —		—	2	
		20 26 — — 65 34*		—		
7.14	7-553-9			9		
		Relocations on 44-553 32 to 30; 91 (2nd) to 16		7 to 24		
7.16	8-553-150	Pressure Increase				
7.27	909	39 — 8		16 2	— 10	
7.28	1236	— 22 —		13 —	— 11	
7.29	15-91-41	41 to 91				
7.30	8-553-175	Increase High Pressure to (175 lbs.)				
7.38	15-18-10	10 to 18				
7.45	15-1-260	260 to 1				
7.46	15-5-213	213 to 5				
7.50	15-14-30	30 to 14				
8.06	15-76-67	67 to 76				
8.11	17-9-15			15 to 9		

NOTES:—Indicates unit assigned not in service to respond.
*** Indicates unit not in service to respond. Returned to quarters later and directed by dispatcher to respond.**

N. Y. F. D. Dispatchers Log of Four Hectic Hours
Simultaneous multi-alarm fires in adjoining areas give New York Firemen lots of action.

Four Hectic Hours

Simultaneous fires are nothing new to the largest fire department in the world. There were other occasions, than that above related, where fire alarms poured into fire alarm headquarters so frequently, and serious fires so overlapped each other as to tax even the resources of this great department. And in some of these instances the high pressure system had little to do in meeting the emergencies.

One such period occurred between the hours of 4 A.M. and 8:00 A.M., on January 8, 1942, when a series of fires, two of which were of major proportions, engaged the greater part of the personnel and equipment of the extensive fire forces of the Borough of Manhattan.

Lack of space prevents detailed accounting of this critical period. Briefly, however, the chronology of alarms and fires went like this:

Activities started at 4:03 A.M., with transmission of a first alarm from Box 785 for a fire in a theatrical warehouse at 340 W. 41st street. All companies were needed, and worked for several hours (no high pressure). At 4:37 A.M., Box 783 was struck for a fire on the New York Central Railroad Pier at the foot of W. 43rd street, only a few blocks away. Of the first alarm assignment due at this box, only Eng. 85, a boat, could respond, so dispatchers were forced to special call apparatus due normally to respond at this location on the second or greater alarms.

Two minutes later, Box 766 was pulled for a trifling fire, and this necessitated further shifts, only a water tower being available to answer this call on regular assignment. At 4:49 A.M., a full alarm assignment was wanted at the Pier Fire (7-5-783) and at 4:56 a second alarm was tapped in, a third coming at 5:06. At 5:13 A.M. more help was required, and the dispatchers jumped the fourth and shot in a fifth alarm.

During the next hour and a half, first alarms were transmitted for trivial, but what might have been serious, fires at four different locations throughout the Borough. System and sense in the fire alarm telegraph office, however, saw each one covered. But at 7:04 P.M., Box 553 sounded in the telegraph office, for a fire in a factory building at 30 W. 29th street. Two covering engine companies (33 and 18) a Chief of Battalion and a Deputy Chief responded.

At 7:11 A.M. a 7-5 signal, for a full assignment from the same box, indicated a fire of some proportions. All assigned companies however were either at the Pier fire or at signal 3-352-1 which immediately preceded this call. Therefore the dispatcher transmitted a second alarm, to which three Engines (two of them covering companies) responded, without any ladder unit. Ladder 24 was special called and more companies relocated to again cover "orphan territory." When the second alarm was received for Box 553, knowing the normally available units were working at other fires and that even third alarm assignments were not available, the dispatcher sent out a fourth alarm. This brought one Chief of Battalion and Engines 20, 26, 16 and 65 (the last two covered by locating companies). Ladder 9, normally a fifth alarm unit, was special called, and still other company units were transferred.

First alarms were then transmitted for boxes 939 and 1236 for trifling fires in East 61st street and East 96th street. Whereupon six more engine and one ladder companies were relocated.

The last re-locating signal was transmitted at 8:11 A.M., ending as tough a four-hour period of simultaneous fire fighting as the city and its fire forces had faced in many years.

Baltimore's Experience

The City of Baltimore has had several occasions within the past few years when serious simultaneous fires gave the fire department hard work and anxious moments but fortunately the emergencies were all met with dispatch, and Fate was on the side of the fire fighters, as one veteran expressed it.

Back in April, 1946, an epidemic of fires gave the city's firemen one of its busiest days. The period was climaxed with a four--alarm blaze which, starting from one of the scores of brush fires fought by the department during the hectic period, spread from a vacant lot to water front property of the Martin Limbach firm, partially burned a wharf, a tug boat, derrick boat, an abandoned wooden ship, three wooden scows, two jack boats, one pile driver, one dredge and wooden pilings. Then the blaze extended to the Patapsco Dry Dock, where a steel tug and barges were damaged.

At the time the first alarm for this fire was sounded, at 3:35 P.M. from Box 537, Wells and Andre streets, companies were fighting other fires, most of them grass and brush in other parts of the city. At 3:48 P.M. a second alarm was sounded and, at 4:30 P.M., a third was pumped and a fourth alarm sent in. A total of 14 pumpers, 4 ladders, a chemical (foam) company and 4 Battalion Chiefs rolled in on these alarms to fight the wharf fire. Fireboats 16, 39 and 49 responded to the alarms and Fireboat Engine No. 49, a converted subchaser, was special called to operate in the shallow water off shore. Eight pumpers drafted from docks near the blaze, while crews of Engines 1 and 2 operated hand lines from the boats.

Simultaneous Fire and Flood Make a Dangerous Combination

Pittsburgh, Pa., and Cincinnati, Ohio, have both experienced serious fires during peak flood periods, taxing the facilities and ingenuity of the fire forces to the limit. Here, on March 18, 1936, flames raged in an oil plant in downtown Pittsburgh. Flood waters cut off approaches to the burning plant. Note fire spreading on the water, and smoking exposures.

The day began with a six-alarm fire discovered at 6:26 A.M. in the Woodbury Dist. Co., a three story brick structure in the heart of the city. Starting in the center of second floor, it quickly extended to remaining parts of the building, and broke through the roof. Before it was halted it had communicated to the roof areas of three adjoining buildings, causing partial loss to each.

A total of 19 engines, 4 ladders and a water tower responded to the six alarms from Box 2128, Gay and High streets. These were timed: signal 2-2 (second alarm) at 6:30 A.M.; signal 3-3 at 6:35; signal 4-4 at 6:36; signal 5-5 at 6:39 and signal 6-6 at 6:52 A.M. The recall signal, relieving companies of further transfers and placing the box back in service was sounded at 7:49 A.M.

Soon after the sixth alarm sounded, 12 reserve pumpers and one reserve ladder truck were placed in service at vacant fire houses by details of men of the off-shift, who responded to the re-call in accordance with the policy of holding transfers to a minimum with the use of spare apparatus.

Within the 24-hour period there were 101 alarms. Baltimore's 95 fire companies were kept busy throughout the day responding to calls from all parts of the city. With well over half of the department's companies responding to or returning from fires at the same time on this date, many companies were rolling on first alarms to boxes on which they were not scheduled to respond until a sixth alarm.

On the night of November 29th, 1949, two multi-alarm fires broke out almost simultaneously in separate parts of Baltimore. They destroyed an East Baltimore print shop and a downtown supply factory.

The first blaze was touched off by an explosion at 9:00 P.M. in the block-long printing firm in the 1100 block of North Chester street. Within 20 minutes three alarms were sounded for this fire in an effort to confine it.

While these fire forces were operating on this fire, or responding to it, at 9:23 P.M. fire was discovered in the 100-year-old converted factory of a dairy supply company in the 500 block North Calvert street.

Within 25 minutes, five alarms were transmitted for this threatening blaze which, starting on the second floor of the three-story building, communicated rapidly to other levels. In all about 30 pieces of fire fighting equipment were mobilized to control this blaze.

The supply house occupied a row of converted apartment buildings from 516 to 524 North Calvert street. The factory section was completely burnt out. Shortly after the fire started, explosions of acetylene tanks aided spread of the flames and, by the time of the arrival of the first fire company, the factory was quite fully involved by fire.

Meanwhile firemen were struggling to hold the printing shop fire which, likewise, received impetus from a heavy explosion, and was soon roaring into the sky. At 10:30 this blaze was still burning, with a crowd estimated at over 10,000 persons swarming into the area.

Loss on the first fire, which burned out the printshop, a new structure housing two lithograph companies and a printing firm, was reported at $350,000; loss on the second fire was not given, but was estimated at $100,000.

Fire Chief Howard Travers shuttled from one fire to the other, while fire alarm dispatchers were busy revising the pattern of company protection as

the multiple alarms called out more and more companies.

The Dayton, Ohio, Record

Although simultaneous alarms and/or fires are not an uncommon occurrence in most municipalities, not many of them make any special recording of such phenomena.

One of the cities that does record such happenings, and includes the record in its annual report of the fire department, is Dayton, Ohio, Joseph A. Kirby, Chief.

Reference to the 1949 Annual Report of the Division of Fire contains this interesting tabulation:

COMPARATIVE MONTHLY REPORT OF SIMULTANEOUS ALARMS

The following table discloses the number of times simultaneous alarms were reported while a fire was already in progress.

Month	Number of Times 1949	1948
January	27	62
February	17	25
March	13	17
April	19	18
May	10	14
June	24	20
July	27	18
August	8	19
September	9	24
October	14	24
November	26	17
December	31	31
	225	289

In the table below are shown the number of times three or more alarms were reported simultaneously:

Number of Alarms	1949	1948
3	6	14
4	0	0
5	0	0

The "Fisher Fires" of Washington

The night of January 16, 1928, and morning of the 17th will long be remembered by veteran District of Columbia firemen. During the period, Washington was worked up to a fever heat by the flurry of fire alarms and working multiple alarm fires that struck the city, and the wild rumors that a band of fire bugs were at work. In the department, the simultaneous multiple alarm blazes were known as the "Fisher Fires," after the psychopathic pyro, who confessed to setting them.

One of the "Fisher Fires" That Periled the Nation's Capital

First of the five multi-alarm fires that came to be known as the "Fisher Fires" named after the "pyro" that set them within a few hours. This and the others gave Washington fire fighters the worst workout in decades. The fire in the basement of this "five and dime" was fought by most of the downtown forces.

Five of the fires were of the multiple alarm magnitude, all burning practically at the same time; that is, before any of the reserve companies were returned to quarters from the first fire, another alarm would be sounded which necessitated the dispatching of additional alarms, until the five overlapping extra-alarm blazes were in progress. As fast as companies could be spared at one fire they were dispatched to another. According to fire department records, there was a time when there was not a company left in any fire station in the city for its protection.

With fire companies rushing about the city and with the prospect of untold additional fires facing the department, aid was requested from Baltimore, 40 miles away, and ten companies in command of Deputy Fire Chief Reinhardt responded. At the same time calls were sent out to volunteer companies in nearby Maryland and Virginia, which were quick to respond. They, with most of the Baltimore units, were assigned to different District fire houses and worked on some of the multiple alarm blazes, as well as the smaller fires that occurred during the hectic period.

Incidentally, at this time Baltimore paid a 24-year-old debt to the City of Washington, for in 1904 the District Fire Department aided in fighting the great Baltimore fire. Ten companies, an ambulance and several deputies made the trip to Baltimore on a special train.

The first of the series of large fires occurred early on the 16th, when Box 191 was struck for a fire in Woolworth's 5 & 10 cent store, 923-925 Pennsylvania NW. Four additional alarms were turned in for this fire, which was confined largely to the store basement, the point of origin.

Soon after, at 12:32 A.M. on the 17th, an alarm was sounded from Box 13 for a fire in a commission house at 206-208 10th street NW. This was not far away from the first blaze, and in a neighborhood that normally calls out a heavy complement of fire forces. A second alarm was struck for this fire.

At 1:52 A.M., while companies were at work on both these fires, an alarm was received from Box 647 for a fire in the Pillsbury Feed Warehouse, 54-56-58 H street NE. A second alarm, followed quickly by a fourth alarm, was struck for this fire and fire alarm headquarters was called upon to meet an emergency situation not previously encountered. As companies were shu

(*Continued on page 675*)

One of Washington's 24 "Fisher Fires"

Interior of the Pillsbury Milling Co.'s warehouse after the four-alarm fire on January 17, 1928, set by "pyro" Fisher—one of five multi-alarm blazes that necessitated calling for help from Baltimore, Md., and neighboring volunteer fire forces.

Rescue and Emergency Apparatus Broaden Field of Fire Service

They Bear Many Names But They Serve Many Essential Purposes in Today's Complex Fire Protection Problems

A SPECIAL STAFF STUDY

Editor's Note: **Over a period of many decades FIRE ENGINEERING has recorded the advance made in the design, construction and application of fire service apparatus and equipment of every kind. Perhaps in no other classification has there been such progressive development as in that of what are variously called rescue and emergency apparatus, and in their manning and operation.**

This study attempts to bring the fire service up-to-date on this advancement. It is based upon special reports to this Journal from over 250 fire departments representing every geographical and population classification in the nation.

To the many chiefs who have cooperated in the preparation of this study, and especially to those who forwarded photographs and detailed information to supplement their reports, the editors express deep appreciation. Not all of these data could hope to be included in this study, but to those who may not find all their pictures and other information included herein, we express regret, and the assurance that it is being retained for possible later articles which will further discuss this important factor of the fire service.

IT is as difficult to determine just which American fire department had the first "rescue squad" as it is to define the term "rescue squad" itself. New York City established Rescue Company No. 1 in 1915, and this is believed to be the first individual company of this nature. However, the ancestor of the modern rescue company doubtless had its inception in the Corps of Sappers and Miners, which came into existence in New York in 1874.

Former New York Fire Chief John Kenlon, who was responsible for many improvements in fire protection, established the first professional fire rescue company, equipped to meet any emergency, and staffed by picked men. His idea was born out of his trip to Europe, during which he witnessed the use of smoke masks and other rescue equipment, and hastened by several near disasters in his own city. It is said that Chicago, Philadelphia, Boston, Washington and other cities soon followed the example of New York.

In addition to the smoke helmets, the idea of which the Chief brought from Europe, the new unit included two "pulmotors." The first apparatus was a gasoline driven motor truck. Of the two officers and seven men who manned this piece, one Captain John J. McElligott, was destined to later become Chief of Department.

As other cities and communities adopted the idea of a special unit devoted to emergency and rescue work, the form of vehicle used, and its equipment, varied considerably. So, too, did the names given such units. "Rescue" squads came to occupy permanent place in the fire service although they bore many different designations. To list just a few: Emergency First Aid (Corps); Emergency Rescue Squad; Service Rescue (Unit); Rescue Squad & Disaster Unit; Service Truck; Emergency Squad & Ambulance; Salvage Squad; Patrol Company; Patrol & Salvage; Emergency Unit; Fire Squad & Emergency Safety; Fire Squad; Disaster Unit; and First Aid Squad (& Unit).

As time went on, the apparatus used by these units underwent change. For many years the trend was toward larger, heavier vehicles. Although these are still popular, and are considered the main reliance of many municipal departments, of late years there has been a trend toward small, lighter, less costly and more maneuverable units. This trend appears to be continuing, if the information afforded by this study is any indication. A number of fire chiefs believe it will continue as long as the problem of manpower and of traffic congestion remain to plague the fire service.

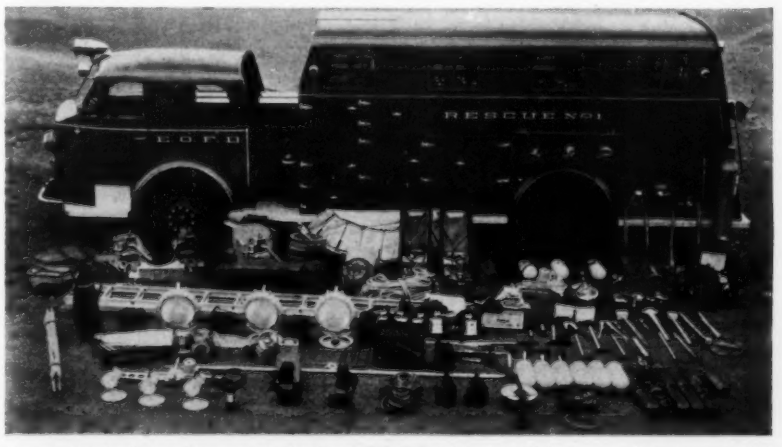
Two other factors bear upon this picture: one is the increasing number and diversity of operations which the modern rescue and emergency squad is called upon to perform and the other relates to it—the increasing range of rescue and emergency equipment which personnel of these units require in their operations. These tasks, and the tools with which modern firemen tackle the tasks, are discussed in detail later on.

All Agree on Need

There is unqualified and widespread agreement on the wisdom of maintaining an emergency first aid, or rescue unit in every fire department, although there are some differences of opinion on the details of equipment and operations.

The study suggests, however, that not all fire departments are aware of the potentialities for good public relations which operation of such units affords. What this means to the fire service as well as the taxpayer is indicated by the chiefs who contributed to this study. A Rhode Island officer had this to say: "This service to the people of _____ has proven itself; it has helped to build up our department and has made good-will for us that we could not have obtained in any other way (incidentally the men rolling on this unit have along with their other rescue work, delivered nine babies, including two sets of twins in a little over a year.")

The chief of an Ohio department writes: "The place of Rescue Squads in the Fire Department has definitely been established. The work of our squads has more than paid for the original cost of the equipment. In our City we have put emphasis on the fact that any one that is in trouble and does not know who to call, should call our department and we will do our best to help him out." A number of fire officers echo this sentiment, and there are some who prefer not to place such a broad



Rescue Truck of East Orange, N. J., Fire Department Carries Wide Array of Equipment. This Unit, Built by American-La France from Specifications Set Up by the East Orange Department, Utilizes Every Inch of Space for Carrying Essential Rescue Appliances

interpretation of what constitutes "public emergencies."

The chief of one of the nation's biggest departments has this to say: "Rescue Companies play a prominent part in rendering first aid and emergency work in our city. The number or responses is beyond belief and we have been very successful in cases where, had they not had such a unit available, it would probably have resulted in the death of the victims. They are valuable units in any city!"

A New England chief emphasizes its necessity and closes: "The need for the specialized equipment carried on these units has now become so common that it should be on the scene of an emergency as soon as possible." And he adds: "The emergency unit is no longer an innovation or an extra. It has achieved a place along with the pumping engine and the ladder truck as a primary piece of fire apparatus."

In addition to serving the public to a degree not possible without such units, a number of officers point out that they are protection for members of the department. "In addition to responding to first aid calls," writes a New York chief, "our emergency squad answers all fire calls to which more than one piece of apparatus responds. We feel our own men should have this protection in the event of accidents while fighting fire."

The importance of such facilities is summed in this way by a prominent Eastern chief: "Emergency Units or Rescue Trucks are much needed in fire department work. I believe that every department, whether a small or large organization, should operate them. Generally speaking, whenever an emergency exists, the first call comes to the fire department. And no department should be in a position of having to decline the call. And if the call is accepted, the department should be in a position to do the job with the proper tools, etc."

Some idea of the work performed by these units is indicated by the replies to a questionnaire sent to representative fire chiefs in every state. In this they were asked, among others, three questions designed to indicate the amount of "business" this branch of their department was doing.

One of Several Standard Rescue Squad Trucks in Service in the Philadelphia, Pa., Fire Department, Built by Approved Fire Equipment Co.

Of the respondents, 126 including small town volunteer and big city professional officers—reported their rescue and emergency units had made 1,021,682 runs in the year 1949.

Not all of those 126 respondents gave their mileage travelled. However, 95 who keep mileage records reported their units last year travelled a total of 394,681.1 miles.

Ninety-four fire departments reported a total of 40,934 hours worked by the emergency and rescue companies (not individual personnel work hours).

From the annual reports of operations of representative fire departments received by FIRE ENGINEERING it is disclosed that, in general, the operations of fire, emergency and first aid squads is steadily increasing.

It is true that much of this business is separate and apart from fire fighting. A large number of departments do not roll their large, heavy rescue units to "still alarms" and to any fires less than multiple alarms, or serious working fires (unless specially called) because of the cost, and other factors. A number, however, insist that their units respond to all bell alarms as well as to special calls because, they maintain, the need of the services of these crews, and their equipment, is even greater at the outset of a fire than later. They admit that with limited numbers of such emergency units they cannot hope to be "first in" at many alarms, but where they do arrive with first alarm assignments they are able to speed attack by helping firemen reach the scene of the fire, advance lines, rescue victims, and so on.

The replies indicate a variety of ways in which such services are employed. Each fire department it appears, endeavors to adapt the operations of this branch to its local needs and limitations. Lack of funds may curtail personnel and/or limit equipment carried, which in turn will restrict the effective application of units in some areas.

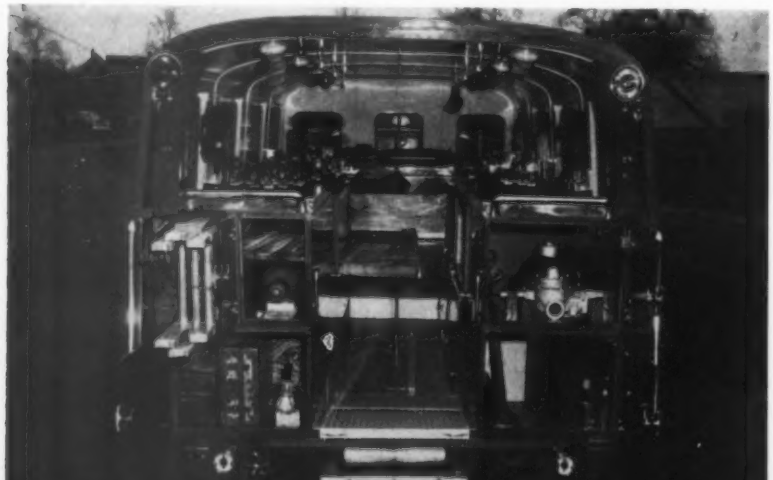
It is evident that not all municipal officials are sympathetic to the requests of the fire chiefs for rescue, first aid and emergency facilities. For example, the chief of a Connecticut department reports: "We had been operating a well equipped rescue truck, and I mean well equipped truck, until July 10th. With the adoption of the 56 hour week, because of a city wide referendum, the number of men added does not permit the continued operation of said truck; however, as soon as finances will permit, men will be added to the force and the truck placed back in commission. During the past year the truck with a trained crew answered 151 calls, covered 314 miles and operated 36 hours . . . for the benefit of the city."

Space does not permit detailed analysis of the work performed by these units. Reports do indicate, as has been said, that in diversity and in volume the total operations are on the increase.

In general, operations may be divided into two phases: (1) those related to fire fighting action and (2) unrelated rescue and emergency operations. Many believe that it is in the latter field that these operations are showing greatest increase. However, inasmuch as the number of fires, of multiple alarm fires, and of responses to false alarms, etc., are showing increases, it is safe to say corresponding increases are being found in this field of endeavor.

An indication of the increase in these opertions is given in the annual report of an Ohio City. Here are the figures for emergency squad runs from the date the unit was inaugurated to and including 1949:

1934	5	1942	3277
1935	88	1943	5317
1936	52	1944	5387
1937	64	1945	4413
1938	147	1946	4137
1939	392	1947	4613
1940	966	1948	6124
1941	1858	1949	8571



Rear View of East Orange Rescue Truck

Taking this same department as an example, it is interesting to observe the type of operations performed. In the year 1949, as stated, operations totalled 8,571. Of these, 8,230 were classed as emergency runs; and 341 fire runs. Actual service amounted to 42,622 hours; miles travelled were 45,826. Day runs were 4,797 and night runs 3,774. Work classification for all three squad units was as follows:

Asthma	47
Attempted suicide	75
Burns	213
Carbon monoxide	39
Cerebrals	102
Choking	72
Convulsions	179
Cuttings	92
Dog bites	7
Dead on arrival	526
Drownings	5
Electric shock	12
Fainting	202
False alarms	7
Foreign subjects	79
Fractures	508
Gas poisoning	26
Gone on arrival	138
Gun shot	39
Heart attacks	435
Heat exhaustion	19
Hemorrhages	139
Hysteria	73
Illness	2026
Injuries	2308
Miscarriages	31
Murders	2
O.K. on arrival	245
Poisoning	113
Refused air	28
Removal of rings	143
Rescued	4
Runs cancelled	97
Smoke exhaustion	33
Suicides	21
Transportation	168

Units on the Increase?

Although this Journal's survey did not include every fire department in the country, returns were sufficiently representative to warrant the belief that the number of rescue, emergency, first aid and like units are on the increase.

This is partially examplified by the trend toward greater numbers of smaller, lighter, more maneuverable vehicles as indicated by respondents. A few years ago very few but the largest cities had more than a single so-called rescue squad or unit. Today, of 132 reporting fire departments, (all classifications) 102 stated they had a single unit; 19 had two units; five had three units; five had more than three and one, Chicago, operates 13 units. This is exclusive of ambulances and special service vehicles such as light or foam trucks and the like.

Not all of these 132 respondent indicated their preference in the matter of the smaller, lighter, units. Enough of them did, however, (129) to permit some conclusions to be drawn.

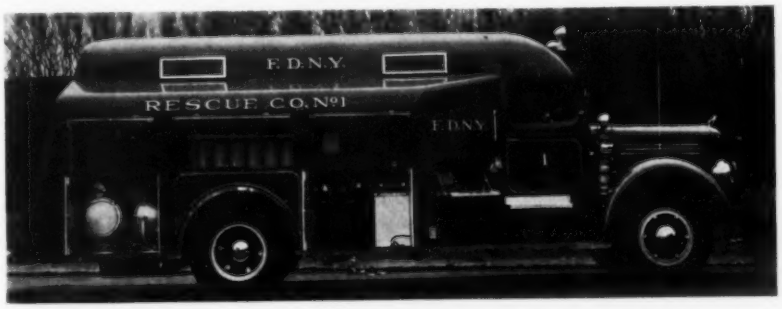
The question asked chiefs was: "Do you favor the use of numbers of smaller, lighter, more maneuverable units carrying limited equipment rather than a limited number of heavier, fully equipped trucks?"

Of the 129 who replied to this question, 65 stated in the affirmative; 33 preferred the heavier units; 17 qualified their reply, some stating they wanted both types, others claiming manpower would not permit, and so on, while 13 would not or could not commit themselves, and one respondent wanted a compromise.

A number of fire chiefs are studying this question. The best approach, said one, is by analysis of the kind of duties performed by the rescue and like units over a sufficient period to give a good basis for measurement. These operations, checked against the cost to maintain and use the facility (including wear-and-tear, accidents, man-hours of work and wages), and against the results accomplished, should provide evidence upon which to base a decision whether to change or not.

A number of fire chiefs, for the most part from smaller communities, believe that all possible equipment should be brought to the emergency on a single rig. This obviates the need of extra men, apparatus and possibly equipment, they believe. In their departments the possibilities of overlapping or simultaneous calls are not great and, where they are equipped with two-way radio, the units are never fully out of service.

On the other hand, in a number of medium and larger cities it has been found advantageous to install small, light fast units, which can be manned by two men and which will carry nearly all the first aid equipment required for



New York's Mack Rescue Truck Is Equipped for Rescue Operations Rather Than for First Aid Work

The Disaster Unit of the Massillon, Ohio, Fire Department Was Purchased and Leased to the City by the American Red Cross Massillon Chapter. The Fire Department Operates It as a Rescue Squad

The New London, Conn., Rescue Truck Is a Combination Ambulance and First Aid Unit. It Carries a Full Complement of Equipment for Such Uses.

the average emergency call. These are located in strategic parts in the city and respond to all first aid and emergency calls within their areas. If the situation is such that the heavier, larger truck is required, it is special called.

Some chiefs point out that they can accomplish much the same result by having their ladder trucks (or a regulation pumper), equipped with all first aid and kindred facilities and respond to emergency calls. In rebuttal, the question is asked, why respond with a crew of 6 or 8 men, on a costly, cumbersome department apparatus, thus placing it out of service when it might be needed for fire control operations or large scale rescue, if the job can be handled by a couple of trained men and a small but fast utility rig? There are advantages to be said for both viewpoints. Sometimes a ladder truck is required in the emergency first aid or rescue work. And most fire chiefs agree that all ladder trucks *should be* equipped with such fundamental facilities as masks and breathing apparatus, lighting equipment, forcible entry tools, and at least a minimum of first aid supplies. Investigation indicates that a number of fire departments are fitting out their standard ladder trucks with most of the basic facilities required for the average emergencies.

One thing this procedure cannot accomplish: that is to provide ambulance service in the emergency. Ambulance service, i.e.: the emergency use of rescue, first aid and like units to treat and transport sick or injured persons, is rendered by a number of departments. However, more of the respondents reported against performing such service than those for it. Of 137 departments which give their views on this subject, 78 were not operating any sort of ambulance service; 43 were doing so, and 16 qualified their replies. Some of them used their units only to remove *firemen* to hospitals.

How Housed and Officered

As might be expected, the great majority of departments locate their rescue or like units in their headquarters' stations. Inasmuch as the majority operate but one unit, the policy is to locate this strategically, as near the center of the community as possible. In most cases, fire headquarters is the the nearest station to the heart of things.

Of 141 departments that reported on location, 110 stated their unit was located at fire headquarters. Many of these departments had but the single fire station, and only one rescue unit. Thirty-one said they placed units at other locations, for the most part stations housing other companies. A majority of these respondents had more than one such piece, or squad. Some had many. In such cases the units were distributed where they would best serve the cities. Here again the problem of using a number of lighter, smaller units as compared with the fewer, more bulky types enters the picture.

Further evidence was disclosed by the answers to this question asked representative departments: "Do you operate them as separate companies or as units of other companies?"

Of 128 respondents who reported on this question, 67 stated they operated their rescue and emergency facilities as separate, individual companies. Forty-nine said they operated them as units of other companies. In other words, these did not have individual company status but were merely adjuncts to other departmental units. Ten said they operated as "both", and two confused the point.

Manpower is an important factor in the operation of rescue and kindred units. In recent years, many departments have combined the functions of rescue and first aid with fire fighting and salvage operations. The rescue unit, may be equipped with pump, booster hose and fire extinguishing equipment as well as what might be termed out-and-out rescue facilities. Such is the case in New Haven, where Engine 12 is both a pumper company and a rescue and emergency unit. In Chicago the squad companies tackle everything that comes along and, at any large fire, it it not uncommon to see one or more squad units operating a deck gun on the blaze. Thus these utility, or squad units, although not classified as outright fire fighting entities, are in reality auxiliaries to the fire fighting units. Because of lack of manpower, in some cities, rescue squad personnel are detailed to aid laddermen and hosemen, and the squad units may be dispatched to the scene of any emergency where personnel needs bolstering.

According to this study, in the paid departments the complement of men assigned to each rescue or similar unit is under five. Thus among 89 departments that reported on this detail, 41 said units had one to three men; 35 reported three to five men and only thirteen reported in excess of five men. These figures applied for the most part to each working shift.

In the volunteer field as might be expected, crews were much larger. Of 44 departments responding to the question on men normally assigned to each unit, 21 stated from one to ten men; 11 reported over 10 and not over 15, and 12 reported 20 or over. Two respondents qualified their statements.

Hoseman William Rose of Philadelphia's Rescue Squad No. 1 Practices Buzzing Through a Door with a 3.5 Horsepower Chain Saw. The Chain Saw Is Standard Equipment Along with Respirators, Oxygen Tanks and Other Emergency Rescue Equipment.

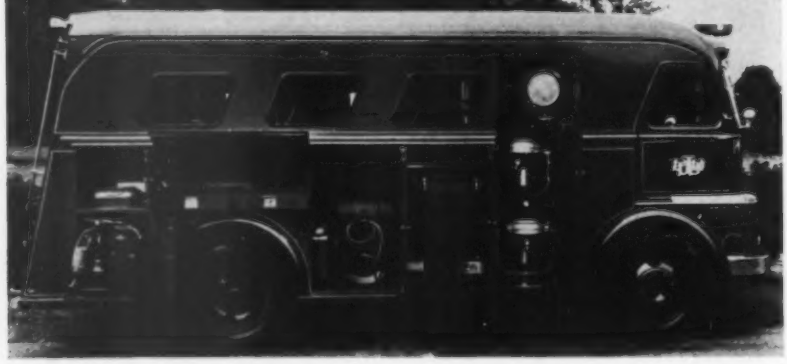
From information received from municipal fire chiefs, the crews of rescue and emergency units do not appear to be on the increase. This is the reverse of the situation among the volunteers.

Further evidence may be drawn from the report on the officering of such units. Of 124 departments that reported on this detail (both paid and volunteer) 99 said units were in charge of an officer. No officer was assigned to units in 25 departments, while ten reported various other forms of control and authority.

A greater number of chiefs reported on the rank of the officer in charge of such forces. Of 130 respondents, 62 announced command is vested in captains; 41 in lieutenants and 21 stated is was in the hands of others, notably chief officers. Only three respondents establish command by persons outside the department (in one case the unit is operated by outsiders and merely loaned to, and housed by, the city department).

Response Varies

There is no standard or uniform procedure for response by these units. Some are assigned regular box and bell assignments. Others respond only on special calls. Some respond to selected locations and to special calls. The nature of the call may have to do with the type of squad or apparatus dispatched, this being particularly true where there may be both a heavy unit,



Windber Fire Co. No. 1, Windber, Pa., Is Proud of Their Modern Rescue Unit, Shown Above

and lighter rig in the same department.

Of 135 departments reporting on this detail, 44 indicated response was by special call; 35 responded on regular assignments and 56 responded on both. By regular assignments most departments meant box alarms, special hazards such as hospitals, hotels and like institutions and to all multiple alarms. "Special calls" were taken to mean "first aid summons" and so on.

Personnel of Prime Importance

There is almost unanimous agreement on the questions of selection and training of men who operate these units. Nearly every department hand-picked its rescue personnel and nearly every one set physical and other requirements higher than for men in other branches of the fire service. Furthermore, this selected personnel was required to know more and be able to do more than normal fire fighters. This called for highly specialized training.

Of 132 departments that reported on selectivity of personnel, 108 exercised special care in selection while 24 did not. Most of the latter were in the volunteer forces where obviously the problem of selectivity is more difficult of solution. A number of volunteer chiefs reported difficulty in securing physically and mentally fit type of personnel that should staff emergency and rescue forces. The better the men, the more difficult for them to leave their regular work for emergency duty.

Most paid departments screen their men to locate those with special talents in the crafts or professions. These men ultimately land in the emergency and rescue squads.

A point of some contributory interest might be included here. It was disclosed that out of 130 departments queried as to whether or not members of emergency and rescue squads received special compensation or reward for service with such units, only three replied in the affirmative. In one department, which maintains only one paid member assigned to the rescue unit, he receives certain additional rewards. In a large Ohio city a premium of $10 per month per man is paid extra for service on the rescue squads. In another Ohio city men who pass the rigid requirements for rescue personnel also receive additional remuneration. One other department said men in this classification receive special consideration in examinations.

Special Training Demanded

There is almost universal agreement on the need for special training for rescue and emergency services. The duties of these crews are very broad and of necessity call for at least a speaking acquaintance with numerous phases of medical first aid, as well as of the other trades and professions which bear upon the firemen's life.

Of 122 chiefs who submitted their views on this detail, 114 placed specialized training as essential. Of the eight who reported their men did not receive such training, a majority admitted that the men did receive some first aid instruction.

The following list gives some idea of the training given personnel:

First aid, basic and advanced; standard American Red Cross courses taught almost universally; Special courses under direction of medical and health authorities, public utilities and others also used.

Use of rescue, life saving and first aid equipment, resuscitation, oxygen therapy; etc.

Swimming.

Rescue procedure.

Operation of regulators, resuscitators, inhalators, respirators and iron lung.

Electrical and refrigeration, air conditioning and elevator installations.

Use of gas masks and breathing apparatus.

Operation of cutting, drilling, and other power tools.

Diving and use of diving apparatus.

Extrication of victims in traffic and industrial accidents.

Operation of auxiliary lighting plants and flood and spotlight.

Sprinkler systems, all types.

Automatic fire detection and alarm transmission systems; watchman's service.

Knot tying.

Rigging and demolition.

Carrying technique.

Panic control.

Instructor training, lecturing and public speaking.

And in addition to all the foregoing, members of squads must be proficient in fire control, extinguishment and prevention practices and procedures.

Several departments, including some in the volunteer field, include instruction in "quiet speaking" and deportment, as well as in traffic control and control over spectators. They also instruct men in medical briefing. Members of squads equipped with radio are (or should be) given instruction in radio communications, terminology and practice.

The majority of departments maintain regular training courses for all personnel, with special instruction in such things as first aid, medical and oxygen therapy, and other non-fire fighting subjects. Based on the fact that the emergency and rescue squad member will be faced with numerous "X-curricular" problems, training and instruction in this field is reportedly broadening materially in scope and detail.

Radio Communications

Rescue units were, next to fireboats, the first fire department facilities to be equipped with radio. Fortunately the old one-way installations, with their limited value, have been giving way to modern two-way and even three-way radio.

Of 13 departments reporting on this phase of rescue and emergency operations, 69 said their vehicles were equipped with 2-way radio; two had one-way and two had three-way. However, 64 stated they did not at present enjoy this essential facility.

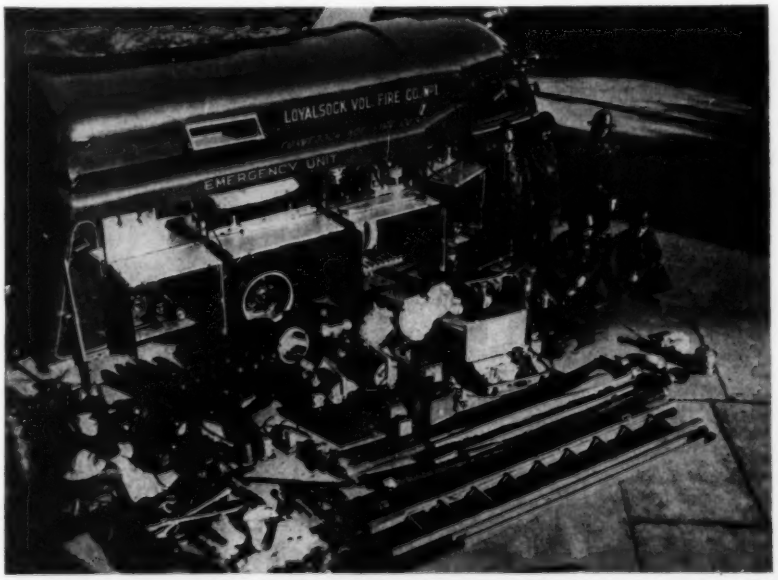
Asked if they expected to install radio, 38 said "yes" and 21 "no." Six were unable to answer the question and one was uncertain.

Comments from the chiefs on the value of radio indicated that while a majority were familiar with many of its advantages, too many officers do not understand its importance and what it will do for them. A number stated that radio is the most important improvement that has been made in their organizations in years. Others stress the fact that the only way they could keep one rescue unit in operation is by judicious use of radio. One or two others who voted against radio based their decision on their disinclination to share radio frequencies with police which in many communities divide channels with the fire department. These chiefs are evidently still unaware that their departments, even though small in size, can have their own radio frequencies by hooking up with neighboring communities, as is being done in numerous counties.

The Apparatus Situation

One factor disclosed by the study is the wide variety of vehicles used by rescue, emergency, first aid and other units (exclusive of ambulances). This

(*Continued on page 678*)



Loyalsock (Lycoming Co.), Pa., Volunteer Fire Department Operates This Fully Equipped "Emergency Unit." It Even Carries Pump and Hose

Fire Service Ladders and Their Use—Part IV

Ladders Have Wide Variety of Use—Wood and Metal Ladder Limitations

By ROI B. WOOLLEY

Editor's Note: **This is the fourth in the series of articles dealing with fire department ladders, ladder operations and evolutions. This installment reviews some of the more important uses of present day fire service ladders and discusses the advantages and disadvantages of certain types as related to certain laddering operations. Previous chapters in this series covered: "A Glossary of Ladder Terms" (May FIRE ENGINEERING); "A History of Fire Service Ladders" (June issue) and "Ladder Standards; Types of Ladders and Their Construction" (July issue).**

As with preceding installments, no attempt is made herein to credit the many authorities and others who have contributed to this treatise. Contributed photographs and other pictures and diagrams used in this and later chapters are acknowledged as used and where advisable, certain reference material is annotated, but the many members of the fire service and representatives of the ladder manufacturers who have so generously cooperated with the author will not be listed until the concluding installment.

Appreciation is expressed to those readers who have submitted to the author their comments and criticisms of the text in previous installments. Their suggestions are helpful and, where possible, will eventually be published.

AS has been said, there are many different types, kinds and sizes of ladders used by the fire service. Some have limited application and use, others have a variety of applications. It is the purpose of this chapter to attempt to describe some of the more common and special uses. Readers, however, will unquestionably be able to add to these applications, based upon their own experience in the handling of ladders and in improvising with ladders to meet certain situations.

Rescue the First Requisite

Just as the saving of human life comes first in fire control operations, so too is rescue the prime consideration in the use of ladders. Because of this fact service ladders must measure up to the highest standards of quality.

The modern fire department is necessarily equipped with a wide variety of ladders to carry out rescue and life saving operations under every normal condition. Its men are thoroughly trained in the use of ladders of all types and it is rare that an emergency arises entailing the use of ladders, where the well trained and equipped department cannot cope with it.

Life saving may be related to fire control operations or may be in no way connected with fire. It is unusual for any large scale emergency, such as hurricane, flood, explosion, train wreck or the like not to require the use of ladders of some kind. It is in these emergency operations that firemen are often called upon to display their ingenuity in utilizing ladders for out-of-the-ordinary applications.

Photo by Joint Committee on Evolutions, F.D.I.C.

Ladders Play a Part in Pumping Evolutions

Improvised dam constructed of two roofing ladders, a pikepole and a salvage cover is used to facilitate relay operations. Open butt fills dam, from which relaying pumper takes suction.

Aerial Ladders Are Used for Non-Fire Rescue Purposes

Here Nashville, Tenn., firemen use wood aerial ladder to remove body of an electrocuted lineman. Man on aerial is cutting power wires. Note iron trussing of ladder, indicating the need of precautionary measures in such operations.

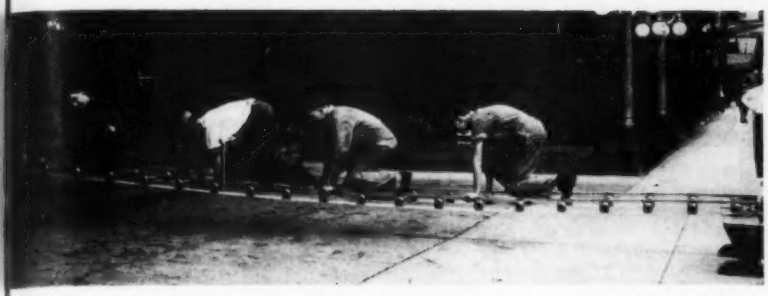
Many fire departments have used their ladders during floods to remove people trapped in buildings, trees, on house tops and from bridges and boats. Many have employed ladders in rescuing persons from rivers, lakes and ponds; the modern metal aerial ladder, which can be extended horizontally over water, or embankments, has proved a most effective life saving appliance in this connection.

Persons endangered by power wires during such emergencies have been saved by fire department ladders. So, too, have injured public utility workers whose removal from poles carrying charged wires calls for skill and intelligence.

Ladders have proved effective in the rescue of persons who have fallen through the ice or who have been overcome or rendered helpless at considerable heights, and from the holds of ships and wells and shafts. They have proved invaluable in removing victims trapped in the collapse of buildings.

However, notwithstanding all these uses, it is in the field of fire control and extinguishment that the fire department ladder finds greatest opportunity and its widest application.

The modern, all-mechanically oper-



Courtesy Aluminum Ladder Co.

The Modern Metal Fire Ladder Makes a Sturdy, Safe Bridge
Where light boards are available they may be laid on the rungs to facilitate passage. The modern wood truss ladder also is widely used for bridging but cannot support the same weight.

ated aerial ladder in the hands of a trained operator is undoubtedly the greatest single rescue implement in the fire service. For this reason, among others, it is recommended by the National Board of Fire Underwriters and fire engineers, to displace the old service truck, in which all ladders were manually placed, and which was the type generally used in residential areas. The modern truck for this service is an easily handled, short wheel base piece of apparatus carrying the usual assortment of straight and extension ladders up to 40 or 50 feet in length, and with a power-operated aerial up to 65 feet in length. Such a piece of apparatus can be quickly placed and operated with a minimum of manpower, to effect speedy rescue of persons from the average dwelling, small apartment building or other structure.

Ventilating

An essential in fire control operations is ventilation; indeed ventilation often goes hand-in-hand with rescue operations, and generally this calls for laddering of one knd or another.

Ventilation, to be effective, must usually be carried out in the upper part of the building involved by fire. Frequently the only means of reaching such areas is by the use of long ladders.

Ladders are employed, therefore, to place firemen on the roofs of structures where they can remove skylights, bulkhead doors and otherwise vent the fire building. Ladders also enable them to open or break upper floor windows from the outside to relieve the structure of smoke and gases. Many times firemen must perform rescue and ventilation operations simultaneously. This requires ample ladder capacity and manpower.

The tips of ladders have been employed to break in windows on upper floors by letting them drop against the glass or sash. In such operations of course care must be taken to safeguard laddermen against falling glass, pieces of which may slide down the beams of the ladder.

Ladders may be used as rams to break in doors or other openings in order to ventilate an area. In these operations men must be protected in every way possible against backdraft or explosion.

Forcible Entry

Ladders are necessary to make entrance into a structure above the ground floor level and even on that level, they are useful. The straight ladder may be employed as a battering ram to force doors of different types, much as they are used to make openings for ventilation.

Use of ladders in this fashion affords men greater protection from backdraft and flying glass than where the conventional door opener or lock breaker is used. In this operation the ladder butt or heel is placed against the door with the beams horizontally parallel to the ground, over each other ("I" position). Two or more men, positioned on each side of the ladder then exert pressure by heaving together at command. The iron heel of the ladder should be placed as near the door lock as possible. It is not ordinarily advisable to swing the ladder against the door as is done with the battering ram, but rather to exert a united and sudden pressure against the frame. Sometimes, when a longer ladder is employed for forcing large doors, it is swung in the manner of a battering ram, the impact accomplishing the opening.

A short ladder may be used to open the rolling steel door, such as are common in warehouses, by exerting pressure to spring the door inward, thus forcing it out of its vertical tracks.

Ladders are frequently employed to advance hose lines into the upper parts of a building. Sometimes this is the only means of reaching involved areas. Some skill is required to perform such evolutions safely and efficiently, particularly if handling charged lines.

The weight of a charged 50 foot length of standard 2½-inch fire hose is about 175 pounds. Not all this weight must be borne by a ladder erected according to standard formula, but a large part of that weight must be carried by the ladder, together with the weight of the personnel that may be on the ladder. There is also the factor of additional strain applied by personnel in climbing or descending the ladder with the charged line. This added weight may be sufficient to greatly exceed the normal safety limits of the ladder in question—a detail that firemen operating on ladders will do well to bear in mind.

Ladders and Pumping

Ladders may be used as framework for improvised dams or reservoirs in certain relay pumping operations. Short ladders are fastened together on their sides, beam over beam, to form a triangle and a tarpaulin or other waterproof cover (a salvage cover will do) is bagged over the framework to form a receptacle which is filled by one pumper and from which suction is taken by another.

Ladders may also be used as water towers. Since the advent of the modern metal aerial ladder from which several streams may be operated as a tower, the old unwieldy, heavy water tower is becoming a thing of the past. Many departments maintain fixed ladder pipes at the tip of the lower fly section with hose connected, ready for quick operation. Others carry ladder pipes on the apparatus for placement at any desired location on the ladder. Some modern aerial ladders are provided with folding platforms on which an operator of the ladder pipe may stand while directing the stream from the aerial ladder tip. Whether equipped with platform

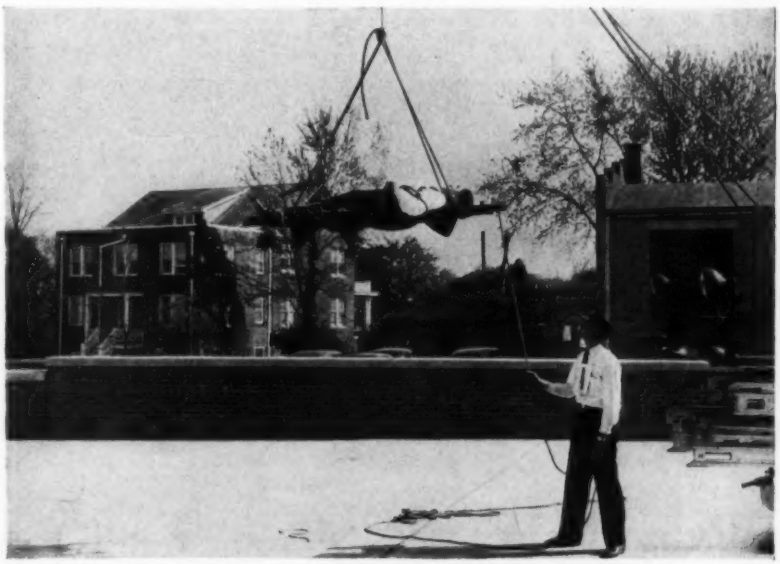


Photo by Joint Committee on Evolutions, F.D.I.C.

Short Ladders Have Many Uses—Here One Is Used as a Sling
Illustrating how an injured fireman or other person may be strapped flat to one section of a short extension ladder and swung to safety.

or not, the operator should always be safeguarded by locking onto the ladder with a ladder belt and snap. Incidentally, ladder belts should be used as a safety precaution by all men operating hose lines on ladders, and hose should be properly secured to the ladders by means of approved fasteners.

Portable straight or extension ladders may be used as water towers by fastening a hose nozzle to the tip or other position and operating it either manually on the ladder or by means of control ropes from the ground. The main essential in such operation is that the ladder be safely guyed and braced and that if the nozzle is manually operated from the ladder, the operator and hose should be securely fastened to the ladder. However, is should be said there is considerable doubt expressed by fire chiefs as to the desirability of this improvisation.

Bridging and Bracing

Ladders can be improvised into emergency bridges to span alleys, courtyards or other gaps between buildings. If planks are available they can be laid on the rungs of the bridging ladder to form a catwalk.

Short ladders may also be employed as supports for hose or to build complete hose bridges overhead, where it is necessary to keep traffic flowing on busy thoroughfares, unimpeded by hose during fire fighting operations.

Ladders make good braces for other ladders as well as for tottering wall section that must be propped. A number of departments make it a regular practice to brace or support wood aerial ladders when fully extended, with straight ladders. This is considered a necessity in some departments where the aerial ladders in use are over-age or are considered sub-standard.

Frequently, in attempting to rescue victims in wrecked buildings where there is threat of further collapse, endangering the rescuers, aerial ladders are thrown against the threatening walls or other sections as precautionary bracing.

Straight ladders are sometimes used as levers to reduce standing walls, chimneys or other wreckage. Ladders are necessary to fasten pull-down hooks where wreckage is reduced by this means.

Salvaging

Straight ladders may be used to construct drains or troughs (with tarpaulins) for removing water from structures in overhauling and salvaging operations.

Where stairway is burned out, or damaged by fire to render it unsafe, a straight ladder may sometimes be made into an improvised stairway in the stair enclosure.

Short extension ladders are particularly useful in reaching concealed and hidden areas for investigating fire and damage. A number of departments have found it advisable to add extra short extension ladders to their regular ladder equipment to facilitate laddering operations. These short extension ladders have other uses, some of which are described later.

Miscellaneous Applications

Straight ladders may be made from extension ladders by separating the fly from the base ladder.

Extension ladders may be improvised by splicing two straight ladders. There are also evolutions whereby both straight and extension ladders may be used in combination to gain greater reach.

Small extension ladders, or short straight ladders may be made to serve as slings to support injured persons.

The short extension ladder may be used as a step-ladder and to bridge fences.

Pompier (scaling) ladders are adaptable for use in street manholes because they occupy little room.

Some departments mount a single pully sheave on the top rung of their aerial ladders. A rope reeved through this may be used for lowering persons or equipment, and for raising or lowering hose lines.

It is the practice in at least one large metropolitan fire department to erect a straight ladder, usually not over 30 feet long, against the fire building with the arrival of the first ladder company. It is said this custom originated years ago as a formal declaration, or indication, that the department had "taken over" the building in question during its fire control operations. The custom had another advantage in that every firemen with a structure so covered knows that on the front of the building there is a short ladder, already erected, which can quickly be shifted to reach anyone within its range, who may require emergency egress.

The "extra-curricular" uses of fire department ladders are countless. Among them may be mentioned; for decorations: aerial ladders, in particular, are extended to form an archway of an inverted "V", draped with bunting and flags; removing animals from trees and elevations, wells, etc.; replacing flags and halyards; erecting radio and television aerials; establishing barricades; removing persons from locked rooms; painting flagpoles; covering roofs damaged by storm or fire; "for money raising campaigns" such as selling war bonds, and many other applications.

As has been pointed out, there are a wide variety of ladders, and several different types of ladder construction.

(*Continued on page* 688)

Aerial and Ground Ladders Used to Get Water on Smoky Fire
Demonstrating the versatility of the modern metal aerial as a water tower, and of straight ladders to fight the fire at close grips. This Milwaukee waste paper blaze burned two days.

Photo by Jack Ribnitzki, Friendship Fire Association

Modern Aerial Meets an Unusual Emergency
When District of Columbia firemen were called on to fight a fire July 4 in a frame dwelling between the Potomac River and Chesapeake & Ohio Canal, in which two died and two were injured, the only way to reach the inaccessible blaze was to bridge the Canal with an aerial ladder fully extended, to the top of which a straight ladder was lashed, forming a 14-foot stairway to the ground. Over this improvised walkway men and equipment reached the fire. Ladder 5, Engine 23 and the chief of the Second Battalion bore the brunt of the unique struggle.

PIERCED FIRE WALL RESPONSIBLE FOR SPREAD OF PORTAGE BLAZE

Four Fire Departments Fight to Control Quarter-Million Dollar Fire at Portage, Wis.

By Chief Rod A. Porter*

THIRTY-SEVEN persons occupying 25 apartments in the Porter block, 311-317 De Witt St., Portage, Wis., escaped or were rescued at midnight April 14, as flames ate their way through 18 of the units on the second floor and three store buildings below them causing damage totalling $250,000.

Four departments battled the flames all night long in freezing temperature and were credited with saving a number of adjoining properties which for more than two hours were feared doomed to destruction.

The fire was discovered shortly before midnight by the occupant of a restaurant across the street from the store where the blaze originated. Firemen, of Portage department, under the direction of Chief Arnold Rueckert, fought to confine the blaze while combing the smoke choked structure for possible victims.

Some occupants of apartments on the street side were brought down ladders by firemen, although most of the tenants escaped on their own with some assistance from their neighbors or citizens who aided fire fighters. There was no panic and evacuation proceeded in orderly fashion. One elderly woman was found lying on the floor lost in the smoke and was removed by Capt. Ralph Nehls assisted by Ben Tietz, a janitor.

Praise for the splendid conduct of the tenants of the apartments was given by Mr. and Mrs. J. B. Gay who operate the properties for the A. A. Porter estate.

Flames were first centered in the rear of the Ace Hardware store, at 313 De Witt St., and were fought from both front and rear. It was estimated that the fire had a two hour start before discovery. This, plus the fact that all occupancies on the first floor had metal ceiling, and metal roofing was used on the structures throughout, made the task of fire fighting doubly difficult.

Soon after the initial alarm, additional fire companies were summoned from cities of Baraboo and Wisconsin Dells, each 18 miles away, and from Pardeeville which is nine miles distant.

Fire raced through hidden spaces under the metal roof above the metal ceiling. So rapid was its progress that much lath was not burned but the studding was scorched by the upward surge of the flames which finally broke through the roof in a towering blast which threatened to envelop the entire block.

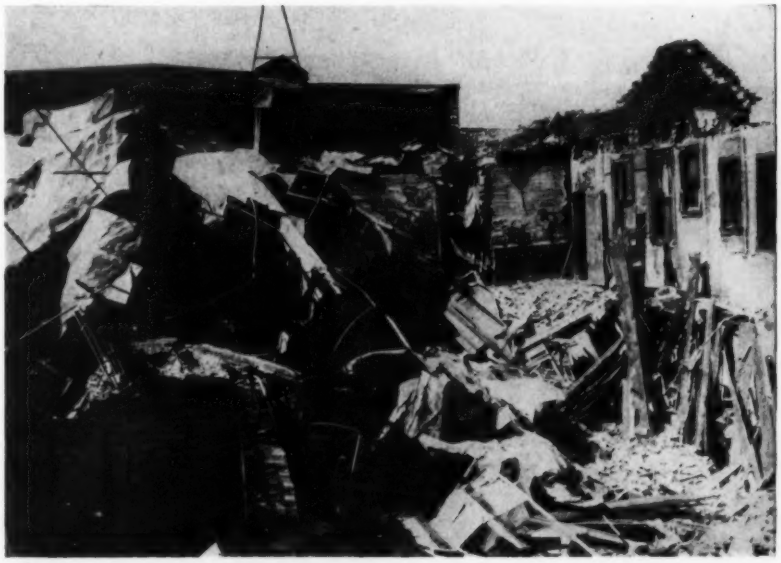
A deck pipe stream, which at first was ineffective because of its inability to reach the concealed fire, was moved to where it could hold flames from spreading across a narrow alley to the Portage Daily Register plant and where it could also operate more directly upon the mounting volume of fire. A deluge gun was used in the rear to knock down flames that scorched an adjoining dwelling and a large apartment house. At this point a spectacular stop was made by concentration of streams.

As neighboring departments arrived, roof lines were brought into play over the newspaper plant and operated successfully. Ten lines in all were used to subdue the blaze.

Occupying the same building as the Ace Hardware was the district office and showrooms of the Wisconsin Power & Light Co., which suffered heavily. To the north of the hardware was located the Portage Home Appliance Co. A fire

*Chief of Fire Department, Winnetka, Ill. Chief Porter was formerly Chief of the Portage, Wis., Fire Department. The Porter Building was the property of the Porter family. Upon receiving word that the Porter Building was afire, he made a record run of approximately 180 miles from Winnetka to Portage. He highly praises the work of the Portage Fire Department in handling the fire.

Front View of Porter Block Following the Fire. Three of the Four Stores Shown Were Practically Total Losses, Only the Walls Remaining



After the Fire: Nothing Left of 11 Apartments and Three Stores. Fire Spread Through Wall Opening Between Metal Ceiling and Metal Roof of One-Story Section at Rear, Circumventing Fire Door. Wrecking and Salvage, Because of the Nearness of Other Properties and Public Thoroughfares, Was a Laborious and Costly Operation

door on the second floor separating these structures closed, but firemen found themselves unable to halt the march of the flames, which appeared to have extended around the fire wall. At this point grave concern was felt for the remaining Bohm Food Market and offices and apartments on the second floor to the north. However two more fire doors fulfilled their purpose at this juncture and fireman breathed easier.

Examination of the walls between the Ace Hardware and the Portage Home Appliance disclosed why the fire was able to circumvent the "fire wall." Hidden by metal ceiling was the work of some careless plumber some years before, who evidently failed to patch up the wall following the installation of a pipe line between the buildings. Fire inspections could not reveal what was hidden from view, but the firemen who viewed the ruin will not soon forget, nor will the property owners, the cost of one unplugged opening.

Older residents of the city remember a similarly destructive fire which destroyed property on the same site Feb. 7, 1915. The only pumper available for that early blaze was a Silsby steamer.

As soon as it was apparent that the Porter structures were to be either destroyed or rendered uninhabitable, the local Red Cross chapter set up emergency relief facilities and canteen service. By mid-afternoon all persons left homeless were housed, at least temporarily; all residents of the buildings involved were registered and accounted for and relatives and friends advised concerning the whereabouts of persons affected by the fire.

Portage and Pardeeville firemen had jointly battled a $100,000 fire only two nights before in the latter village where the high school was destroyed. Shortage of water and delayed discovery contributed to the total loss. Chief Orris O. Smith, of Pardeeville, was not long in returning Chief Rueckert's visit.

The last extra alarm fire in Portage occurred July 30, 1947, at the Kroger Co. supermarket.

USING EXPLOSIVE TO CUT OPEN FUSELAGE OF CRASHED AIRPLANE

Novel Method Proves Effective; May Find Widespread Use on Both Military and Civilian Planes

By A. Graham Thomson

WHEN an aircraft crashes and bursts into flames, the lives of the crew and passengers usually depend on the speed with which rescue workers can break into the fuselage and pull them out. Frequently the people inside the machine are dazed for at least a few minutes by the impact of the crash. Before they have recovered sufficiently to help themselves, the fire may already have spread from the engine and gasoline tank to the fuselage.

The rescuers are thus faced with a race against time in which seconds may mean the difference between success and tragic failure. In rushing to the scene of the crash they often have considerable obstacles to surmount. During World War II, apart from the natural difficulties of the terrain, rescuers were sometimes hindered by anti-tank ditches, wire entaglements and other military obstructions.

On reaching the aircraft the firemen still have to break through the fuselage, which often presents a formidable obstacle to their axes because of its continuous construction. The materials forming the skin of an aircraft are so tough that it may take as long as ten minutes to make a large enough hole with ordinary cutting tools.

Early in 1944, Dr. E. W. J. Phillips, of the Forest Products Research Laboratory, at that time attached to the Fire Research Station of Britain's Ministry of Home Security, was engaged on an investigation of aircraft crashes from the aspect of fire hazards. This work was undertaken in close co-operation with the Air Ministry's Chief Inspector of Accidents and the fire fighting services.

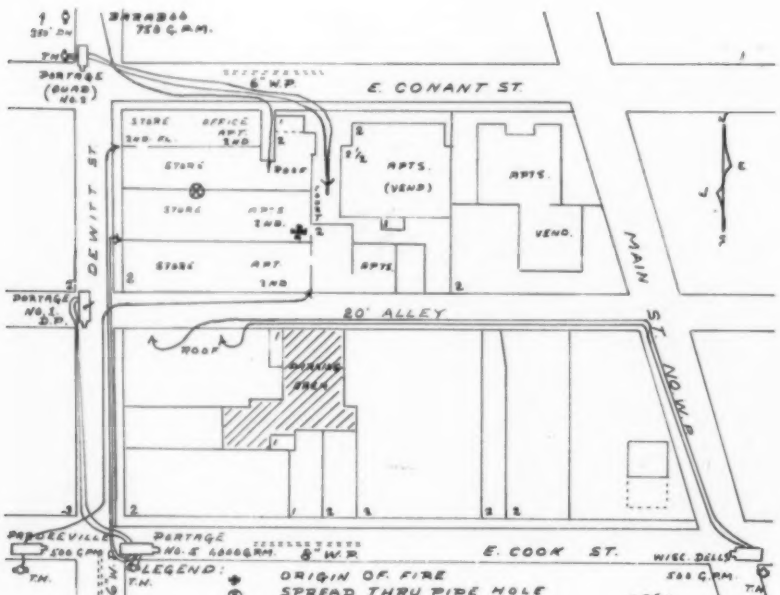
When it became evident that the ordinary breaking-in tools were ineffective, Dr. Phillips conceived the idea of using explosives for cutting through the fuselage. It occurred to him that the shaped charge principle as used in certain types of demolition explosive might be adopted. His idea was to develop a line charge so shaped that the explosive effect would be concentrated in the required direction. For instance, if the charge were given a V groove, it would punch on the grooved side. This line charge would be used to blow a hole in the side of the aircraft, through which the passengers and crew could scramble to safety.

Detonation of Charge

The inventor's original idea was that the line might be looped round the aircraft and pulled tight, the charge being then detonated from a short distance away by means of a length of flex and a small electric battery. His next scheme was that a piece of line charge shaped in the form of a panel should be affixed to a long rod by means of a hinged support, so that the apparatus could be positioned and fixed on the aircraft fuselage simply by sticking the rod in the ground, when the charge could be set off from a suitable distance. Thus the necessity for looping the charge round the aircraft could be avoided, enabling the entire operation to be completed in a matter of seconds. Another improvement suggested was to have the line charge shaped as a panel and built into a piece of canvas, so that the apparatus could be rolled up and more easily carried around.

The line charge is made in the form of a tube or cord, the explosive being packed in the centre like the wire in an electric cable. In one of the methods finally evolved, the cord is held against the side of the burning aircraft by a framework on the end of a long arm and fired from a distance. It might also be fixed to the fuselage by an adhesive on a flattened side of the cord itself, or by sticky tabs. The size of the panel to be blown out could be made adjustable by two telescopic diagonals fixed on the frame.

This method could be used either to gain access to the interior of the crashed aircraft or to separate blazing parts from the rest of the aircraft. If the fire was spreading fairly rapidly it might be necessary to cut away the fuselage by looping the line charge around it and dragging the severed panel to a safe distance with the airmen inside.



Plan of Involved Area at Portage, Wis.

By using explosive line charges, large aircraft could be cut completely in two.

Protection Against Explosion

Inside the machine the blast would be no greater than the effect experienced when a fairly large gun is fired, and the ordinary flying suit was considered to be an ample protection against the explosion.

Since it would require a fairly heavy charge to blow through the girders inside the fuselage, it is importnat that the explosive should be directed against a place where there is only skin to cut. A scheme was therefore considered for having markings on aircraft to indicate the points where line charges could effectively be applied.

Though Dr. Phillips's idea was a simple one, it worked so successfully that it was planned to adopt the apparatus as standard equipment at all military airfields. When World War II ended, the scheme was shelved for the time being, but now the device has been taken up again on account of its enormous potential value to civil aviation.

When dealing with fire, speed is of paramount importance. By reducing the time required to break into crashed aircraft from five or ten minutes to as many seconds, the use of explosive line charges should result in the saving of many lives.

These rescue devices have been patented in the name of Dr. Phillips by Britain's Department of Scientific and Industrial Research.

Fire Protection Scholarships Awarded

Sixteen scholarships in fire protection and safety engineering to Illinois Institute of Technology, Chicago, Ill., have been awarded by the Stock Fire Insurance companies through the Western Actuarial Bureau.

Each award provides payment of tuition and other fees for the regular four-year course at Illinois Tech, the only college or university in the nation offering a degree in fire protection and safety engineering.

Winners were selected by the scholarship committee of the Western Actuarial Bureau on the basis of competitve examination, high school record, and extra-curricular activities.

During the summer vacations, the Actuarial Bureau assigns each scholarship student to a position with one of the midwest inspection bureaus. After graduation the student goes on the full-time payroll with the same firm.

Fire Swept Sanatorium Closed

The Pennsylvania State Welfare Department removed the license of the Belle Vista Sanatorium, where ten mental patients died in a fire on March 28. At the same time it criticized the management of the private sanatorium for an "obvious lack of responsibility" in meeting mental health laws.

The institution, just outside Philadelphia, was ordered to close as of August 1. The department said that at the time the fire was reported it had the sanatorium listed as caring for nine patients. A subsequent investigation, the department said, showed ninety patients were under treatment when the fire struck.

FARMER'S PROTECTIVE SOCIETY SERVES IOWA RURAL DISTRICT

Basis of Effective Protection is a Simple Data Card and Response System*

THE Farmer's Fire Protective Society serves in particular the seven Iowa Townships surrounding the City of Red Oak. In addition, it has arrangements with other Townships to provide help should it be needed.

The Society is maintained largely by fees collected from members. The membership fee is $25.00, and payment of fee entitles the member to full fire protection offered by the Society, its apparatus and fire fighters.

The organizing of the Society followed much the same pattern as that of other similar Iowa rural fire organizations. A few hardy spirits got together, pooled their interests, and such finances as they could collect, and set up shop. In the case of the Farmers Protective Society, sufficient charter members were obtained in its early days to purchase a fully equipped rural truck.

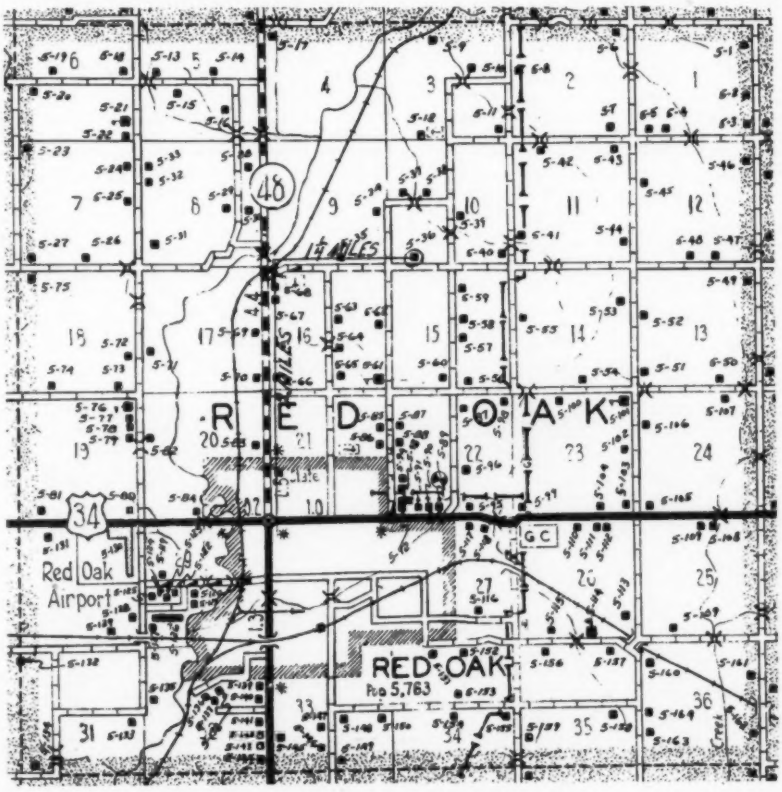
If any response of the equipment is made to a farm not belonging to the Society, a charge of $50.00 is made, and then this farm owner automatically becomes a member of the Society and is included in its "card system." There are no further charges to any members until and unless it is necessary to purchase a new piece of apparatus. The present unit is housed, manned and maintained by the City of Red Oak and in return for the privilege of using the equipment on fire runs within the City. However, the Society has prior right to the use of its apparatus at all times.

The several steps necessary to build the organization as an efficient fire fighting group were not taken at one time, but came about through planning and "trial and error." One of the first essentials were to plot the farms and properties in the area, the roads and highways, the water supplies, and such other essential information as would be required to render good fire protection service.

Soon after the Society got going, with the cooperation of the local newspaper a notice was published for all members of the Society to report to the fire station and provide the information needed for the "card system." This system is the heart of the set-up and without it, and the data it affords, prompt response would be out of the question.

The Society has a master map showing all farms in the seven townships. This hangs on the wall of the fire sta-

*FIRE ENGINEERING is indebted to Fire Chief Frank, Red Oak Fire Department for the information on which this account is based.



Data Card on Farm Location

tion. Also, there is a card provided for each individual farm on which is indicated the location of the farm within its respective township. The best routes to the individual farms are mapped in red ink on the map and additional pertinent directions and information are contained on the reverse side of the card. These data include all information concerning water supplies, etc. Each township is numbered, and each farm within the townships likewise bears a numeral. A typical farm number would be 5-36. This indicates farm number 36 in township number 5. When fires are reported, the farmer's number is used, which saves confusion and misunderstanding over the country telephone lines in trying to get proper directions to the firemen.

The cards are retained in chronological file by townships at the fire station. Upon receiving the fire call to "Farm 5-36," for example, the person taking the call steps to the file, pulls out the card and this is taken along to the fire. En route, the card provides those responding a "pre-indoctrination" of all the necessary information concerning water supply, building location, and detailed information as to the route to be taken to reach the fire. The card also furnishes such other data as buildings on the property, farm telephone number, and so on, as shown in the reproduction.

It will be noted from this diagram how the farm indicated—"5-36—is related to the entire township. Each farm in the area is keyed by number; each road and highway is indicated, together with streams and other water sources. The master maps, incidentally, are secured from the Iowa State Highway Commission and are authentic. The local newspaper assisted the Society by providing the photographic reproductions of the smaller cards from the master map.

Here, in brief, is the simple, but highly effective fire protection provided by the Farmers Protective Society and the Red Oak Fire Department. Other cities and townships have similar plans. The beauty of it all is they work. And because of these organizations and plans a high degree of protection is now being afforded rural areas which not so long ago were at the mercy of fire.

Fire Fighting and Rescue Apparatus of the Red Oak, Iowa, Fire Department

Costly July Fourth Weekend

The four-day Fourth of July weekend was the most deadly holiday period in the nation's history, with highway traffic the biggest killer. A total of 793 persons met death between 6:00 P.M. Friday and midnight Tuesday, it is disclosed.

Of these, 491 died as a result of automobile accidents; 179 were drowned and 122 perished in miscellaneous accidents. Only one person was reported killed by fireworks.

Fireworks, however, were responsible for many injuries, and considerable destruction from fire. A partial accounting includes these incidents:

DETROIT, MICH.—Two fugitives from the Boys Vocational School at Lansing, Mich., admitted that they plotted to dynamite the institution on July 4 "just to make some noise ourselves." They looted gasoline stations and stores, after escaping from the school June 25th. Authorities found sticks of dynamite, caps and fuses hidden in an abandoned truck in the woods, in which they had lived since fleeing school.

BRAZIL, IND.—A keg of black powder exploded in a premature July 4th celebration, on the night of the 3rd, injuring eight children and four adults. A 33-year-old man was throwing powder from the keg on a bonfire in front of his home. Spilled powder ignited and the flames spread back to the keg, which blew up.

DANBURY, CONN.—An exploding firecracker on June 29th put out the left eye of 7-year-old Richard Gehrig of Brookfield. The firecracker exploded in a can of sand which caught the child at close range.. An emergency operation failed to save the eye.

WESTFIELD, N. J.—Six teen-age boys were booked in Juvenile Court after police discovered a cache of fireworks and powder and other materials for making them in the cellar of the home of one of the youths. Fire Chief William Linden said the cache was found after a several weeks search for the source of fireworks that have been discharged there. Police gained access to the home on the pretext of investigating safety and fire regulations. The cache included two small kegs of black powder; 51 four-inch aerial bombs, 42 one-pound rockets; 72 floodlight aerial bombs; 8 smoke bombs; 2,500 2-in fire crackers; 2,000 salutes of various types; one drum of potassium chloride; one box of antimony trisulphide and numerous other skyrockets and fireworks compounds.

SEATTLE, WASH.—Touched off by a firecracker, an explosion and fire on July 3 caused heavy damage to three houses, two garages and a house trailer. In another incident involving fireworks, a 31-year-old man suffered a severe leg injury when a large firecracker exploded.

A firecracker, apparently set off in a shed, started a fire in drums of fuel oil, which exploded. The fire in turn ignited neighboring houses and garages.

FLINT, MICH.—A fire that caused $15,000 loss on June 26th was blamed on children playing with fireworks. The fire damaged a coal storage building. About 200 employees of a nearby industrial plant were sent home as a safety measure. Flames threatened the adjacent Standard Oil Co.'s bulk plant.

Senior Fire Inspector Harold C. Chirgwin said there was some concern the fire might ignite 100,000 gallons of gasoline in storage.

Children playing in the area turned in the first alarm, responded to by Station 4. Soon after, additional help was summoned from Stations 1, 2, 3 and 4. Twelve 2½-inch lines were operated on the fire by firemen manning 5 pumpers, 4 ladder trucks and a rescue truck. Assistant Chief Calvin Johnson and Battalion Chief Robert Smith directed the fire fighters.

(*Continued on page 687*)

OWNER	FARM NO.	TENANT
JOHN DOE	5-36	MIKE JONES
ADDRESS RED OAK TWP., R.F.D. 2		ADDRESS RED OAK TWP., R.F.D. 2
TELEPHONE 792 W 3		TELEPHONE 1137

REMARKS

NORTH 2 MILES ON HIGHWAY 48 - 1/4 MILES EAST

SECOND HOUSE ON NORTH SIDE OF ROAD AFTER TURNING EAST OFF OF HIGHWAY 48.

ENGINEER'S DATA

	USE				
	RESERVOIR		GAL.		FT.
X	CISTERN	2500	GAL.	150	FT. NORTH EAST OF HOUSE
	RIVER				FT.
	CREEK				FT.
	SPRING BRANCH				FT.
X	STOCK TANK	750	GAL.	50	FT. SOUTH OF HORSE BARN

Reverse of Card Gives Detailed Information to Assist the Fire Department

FIRE PREVENTION TAUGHT IN RICHLAND, WASH., GRADE SCHOOLS

Imminence of Fire Prevention Week Focusses Interest On Plans and Programs of Fire Services

A Staff Report

P. A. WRIGHT, Superintendent of Schools in the Atomic City of Richland, Washington, population 23,000, directs an aggressive school administration firmly of the opinion that fire prevention is as much a part of youth education as many of the other practical courses taught in its five grade schools, one junior and one senior high school. For two successive years the full support of principals, teachers and students has been placed squarely behind the community's outstanding observance of Fire Prevention Week.

A Richland, Wash., Schoolboy Uses an Auxiliary Fire Alarm Box, Similar to Those in the School, Thereby Learning What Actually Happens When an Alarm is Turned in by this Means. The Panel Contains All the Working Parts of the City's Alarm System Including Fire Station Gongs and Register

Several weeks prior to October 9th, Superintendent Wright addressed a bulletin to all teachers urging participation in Fire Prevention Week activities and enclosed a comprehensive list of suggested student activities. At the same time several Fire Prevention Week contests were announced. These included poster, essay, slogan, and dramatic contests. Then came the announcement that the school with the best over-all participation would be honored with a suitable award. Trophies for these contests were offered by the American Legion Post No. 71, Villagers, Inc., and the Village Players. School principals and teachers went to work. So did the 5360 students.

Two Richland Toastmaster and one Toastmistress Clubs which merged forces as a community Fire Prevention Week speakers bureau were immediately besieged with requests for speakers. The stage was set.

Three news photographers found it impossible to cover all Fire Prevention Week activities that went on in the seven schools. There were 35 playlets or skits, most of them original productions by students or teachers, performed during the 5-day school week. These included plays staged before student assemblies, parent-teacher audiences and in a few instances, classrooms. Significantly, of all the age groups participating, experienced dramatists who judged the plays awarded top honors to a group of third graders.

Almost a third of the students submitted Fire Prevention Week posters and the judges faced a tremendous task selecting eight winners from the 1730 posters entered in the contest.

Student originality was widely manifest in the 708 essays selected by teachers as worthy of consideration in the essay contest. Eight winners were also picked in this event, all schools having at least one winner.

Catchy punch lines, poems and short sayings comprised the 785 slogans the judges had to select from, and provided good copy for a decade of Fire Prevention Week campaigns.

Of the 5100 home inspection forms furnished to students, slightly over 3500 (or almost 70%) were completed at home, with parent assistance, and returned. This was considered a record return since about 35% responded on previous occasions.

The high school radio production class devoted its weekly 15-minute broadcast to the teen-age slant on fire prevention. With the assistance of Speakers Bureau members, who served as announcers and quizmasters, two radio quizzes were held. Proficiency of student knowledge on fire prevention matters was exemplified by the fact that only one of twenty volunteer students failed to answer the unrehearsed questions.

Speakers Bureau members appeared 41 times in schools conveying the Fire Prevention Week message to both assemblies and classrooms. Jay W. Stevens of the National Board of Fire Underwriters, who was in Richland to address the Kiwanis Club, at the time, won student enthusiasm for the week's campaign by speaking to the high school students at the two assemblies required to handle the full 1060 students.

Open House at Fire Stations

Eleven school classes took advantage of open house at fire stations by visiting those stations to have alarm system, apparatus and miscellaneous firefighting equipment explained by company officers. In addition firemen brought their apparatus to the schools for aerial ladder demonstrations, instruction in fire extinguisher operation and fire prevention talks. Over 3300 students attended these demonstrations on the school grounds.

Every classroom blackboard exhibited fire prevention posters or murals drawn or painted by the students. School bulletin boards and trophy cases were utilized for fire prevention displays. Model towns were constructed for table displays featuring the week's theme.

Two original songs, one by a student and one by a teacher, were written around the campaign and sung by students.

Student-faculty committees in every school gave both buildings and grounds exhaustive fire prevention inspections, reports of these inspections being submitted to Richland fire protection officials.

Even the kindergarten and 1st grade youngsters found themselves in the swing of things, utilizing toy telephones to learn dialing the Fire Department and giving the street location of a hypothetical fire.

All schools conducted at least one fire drill during the week, frequently using student-painted fire scenes to denote blocked egress, thereby testing out a long-practiced policy of occasionally using alternate exits.

A keenly trained group of twenty-five students comprise a well organized high school fire department whose duties include: (1) hazard detection and removal, (2) inspection of fire extinguishers and standpipe hose as well as their use on fires, (3) conducting fire drills with a student fireman assigned to assist physically handicapped students and (4) closing doors and windows to all rooms and at fire walls after buildings are evacuated. The student fire department conducted a surprise drill sometime during each day of Fire Prevention Week, summoning lagging students before the stu-

The Radio Quizmaster and Students Participating in the Fire Prevention Week Broadcast at Richland, Wash. The Quizmaster Was Called "Dr. Stop-Fire"

dent court until drills were satisfactorily performed.

Parent-Teacher groups for all seven schools made contact with over 4000 Richland homes in the interest of fire prevention. Safety chairmen of each P.T.A. group conducted fire prevention discussions in his or her group and got campaign literature into each student's home.

After Fire Prevention Week, when all the activities of the school campaign had been reported and evaluated both on individual and school-wide levels, officials of the Fire Department, American Legion and other sponsoring groups returned for assemblies in each school to honor the winning students and at Lewis and Clark Grade School presenting the student body president with a gold statuette for the finest campaign conducted by any of the seven schools.

* * * * * * *

MAPLEWOOD MAKES F. P. WEEK A FIRE DEPARTMENT FUNCTION

Another community of approximately the same size as Richland makes its fire department inspections the focal point for its Fire Prevention week promotional activities. That is Maplewood, New Jersey, population 25,000, which found after long experience that if an outstanding fire prevention job was to be done the fire forces had to spark it, the aid of other local organizations could not always be counted upon.

Fire Chief L. Zimmer and the head of the Fire Prevention Bureau, Capt. James B. Henderson, have been able to wrap their fire prevention promotion around their quarterly inspection service. They say that in this way they secure the fullest measure of cooperation of business firms and other organizations.

Chief Zimmer and Captain Henderson believe that fire prevention shouldn't be only a "shot in the arm" but should be carried on throughout the year. They find that by tying fire prevention activities to their matutinal inspections, which business folk have come to regard as something conducted in their own interests, they get compliance with definite recommendations, made by the department after study of actual conditions. In a word, the prevention of fire becomes a very personal, intimate matter with the business man in whose premises the fire department inspector has found a hazardous violation. They agree that it has taken some years to bring about this situation, but know that it pays off as the best sort of Fire Prevention Week campaigning.

Perhaps the basis of it all is the comprehensive fire prevention ordinance passed by the town in July of 1946. This provides for the establishment of a Fire Prevention Bureau, defined its setup and limitations, and prescribes the regulations for fire prevention and fire safety in connection with hazardous materials and processes.

Fire department officials claim much of the credit for the success of the program must be given the procedure of serving notification of violations on the property owner and occupant, and the method of following up violations which, they say, while seldom resulting in court action, nevertheless do bring about speedy correction.

Three printed forms and a card are used by the department in this connection. One is a notification of the violation; another is a follow-up, and the third is filled in and signed and duly notarized, by the inspector, describing the violation and previous notices and giving final warning. In addition to these, a card index is kept of all mercantile and other business properties, and of all inspections and ensuing action taken.

The inspections have uncovered violations of nearly every type, including poor and dangerous electric wiring and much overfusing. Elimination of this evil has been furthered through the cooperation of the Middle Rating Office in East Orange, with the Maplewood Fire Department. The publicity given the inspections and types of violations by the local weekly newspaper has been of help.

The fire department does not rely entirely upon its quarterly inspections to get over Fire Prevention. As part of its continual pressure in this field, it conducts various activities among school children and homeowners, using all available means of publicity. During the

(*Continued on page 692*)

Fire Prevention Exhibit in Paint Store on the Main Highway Through the Town of Maplewood, N. J.

Sandra McBrath of the Kit Carson School, Left, and Loma Spencer of St. Joseph's School Each Were Awarded $25 Savings Bonds by Officials of the Sacramento Safety Council and the Fire Department for Writing the Winning Essays on Fire Prevention. The Contest Was Conducted in Connection with National Fire Prevention Week. Shown with the Winners Are Fire Chief Terence Mulligan and Irwin K. Sibole, President of the Safety Council

Fire Prevention Display in a Store Patronized Greatly by High School Students at Maplewood, N. J.

SMOKE DETECTION SYSTEMS GUARD VITAL W. U. COMMUNICATIONS

Electronic Detection and Alarm Protection Provided in Western Union Selective Switching Centers

ELECTRONIC smoke detection and alarm systems protect each of the critical selective switching centers in the national network which the Western Union Telegraph Company has established to provide automatic retransmission of telegrams. Automatic retransmission eliminates manual retransmission of telegrams, greatly speeding and improving the efficiency of modern telegraphic communications.

These high-speed communications centers, which individually cost as much as $2,000,000, contain upward of 3,000 miles of wire conductors and more than 1,000,000 intricate wire connections. Obviously a fire of any extent would cause considerable damage to such equipment. There are reportedly 15 such centers in Western Union's $70 million nationwide mechanization program, begun in 1949.

Conscious of the potential hazard, Western Union engineers who designed the installations, consulted with engineers of the American District Telegraph Company in the effort to develop a protective system that would detect fires in their incipiency and sound an alarm. The outcome was an adaptation of the successful electronic smoke detection system such as is provided by ADT for fur storage vaults and similar enclosures containing highly concentrated values.

This system was developed some years ago following several disastrous fires in fur storage vaults. The fires in question demonstrated the crying need for a system that would detect and report the presence of even a small amount of smoke within a vault, thereby permitting extinguishment before the outbreak could become dangerous. What was wanted, also, was a system that would be as near fool-proof as possible.

Inasmuch as overheated electrical equipment as well as fur coats exposed to heat, gives off smoke before bursting into flame, the solution to both problems obviously is akin. With the experience gained in the installation and operation of the detection and alarm systems in the fur field to draw upon, A.D.T. engineers were able to adapt their system, which incidentally is tested and approved by the Underwriters' Laboratories Inc., to meet the specific requirements of Western Union's switch rooms.

How the Electric Eye Works

Based on the principle of the electric eye, the system operates to give an alarm whenever smoke interrupts a beam of light projected across the protected area. The light-source and light-receiver units are usually mounted just below the ceiling of the room or vault. The light-source unit, installed at one end of the room, projects a constant beam of light to a shielded light-receiver unit at the opposite end of the room. The light-receiver unit contains the photoelectric cell which converts light into electric current. A decrease in the intensity of light, when smoke interrupts the beam, initiates an alarm signal. The associated control and alarm equipment usually is mounted on the exterior of the protected space.

Full scale tests of this system, modified to meet specific requirements of Western Union, were conducted in the switching center in Philadelphia. Employing one light beam per aisle and with highly sensitive settings, the system proved capable of detecting an exceedingly small amount of smoke. One of the tests consisted of placing a small-gauge synthetic insulated switchroom wire about 1½ inches long against a hot soldering iron. The smoke was caught in less than a minute after the small piece of wire was in contact with the heated iron, no matter where in the room the smoke was generated and despite the forced circulation of air in the switch room. Each subsequent switch room installation had to undergo such tests before it was placed in service.

Operation of the smoke detection system results in the sounding of one or more smoke alarm bells in the Western Union office and the automatic shutting down of the air circulating fans. The alarm is also transmitted to the local A.D.T. Central Station and the municipal fire department is dispatched when the automatic smoke alarm is followed by an alarm from a manually operated fire alarm box located in the Western Union office as part of the smoke detection and alarm system.

Each switching center is equipped with suitable first-aid types of fire extinguishers. It is said that with the speed with which detection and alarm are obtained from the smoke detection system, outbreaks that have occurred have been easily handled without outside aid or fire extinguishing operations that might cause unnecessary damage to the delicate communication devices.

The switch rooms are kept exceptionally clean and free from dust. Access to them is restricted. A positive air pressure is maintained so that no dust or dirty air leakage into them can take place. Because of these controlled conditions, it is possible to operate the smoke detection system at a much higher sensitivity than in other types of installations. In tests, the system operated when smoke introduced into a light beam caused a reduction of less than one per cent of received light.

Supervision, inspections, tests and maintenance of the detection and alarm system equipment are provided by A.D.T.

"It Could Save Your Life"

Under the above title, *The Saturday Post* on June 24, 1950, carried an interesting four-page article reviewing the development and acceptance of the resuscitator by the medical field.

Many incidents, where members of fire departments revived victims by use of the resuscitator, are described. In speaking of the unit, the author states: "It is the hero of ten thousand tense little dramas of life and death, but so well does it conceal its importance that even the iron lung, which can't compare in general usefulness, is better known."

The difficulties encountered before the American Medical Association and other groups in getting the resuscitator accepted are described in detail. How it was finally endorsed, after extensive tests, is also reviewed. For the student of resuscitation methods, the article provides a lot of instructive data. It also emphasizes the opposition which is usually encountered in the introduction of a new idea, no matter how meritorious, into the fire and rescue services.

Smoke Detection System Guards Critical Western Union Communications Center
Intricate and costly automatic selective switching center for ultra-modern high-speed automatic telegraph communications has "electric eye" smoke detection and alarm protection. Shielded equipment at top of room is allergic to slightest smoke and makes its presence quickly known.

Photo by Andy Palmer

Picture Was Taken at 8:00 P. M. as the First Volunteers Arrived from Blackstone, R. I., to be Followed by Engine 3 of Woonsocket, R. I., and Two Units from Bellingham, Mass. Fire Was Stopped Where Men Are Shown on Roof.

Two States Fight Barn Fire

Believed started by lightning, fire originating in the hay and grain room of a huge barn at the City Dairy Farm on Elm street, East Blackstone, R. I., caused an estimated loss of $50,000 on the evening of June 25th, last. The barn is said to be the longest and largest in southern New England. Firemen from two states saved an adjoining cow barn and kept damage to the minimum at a connected milk room. Eighty tons of hay and grain were destroyed, along with $5,000 worth of farm equipment.

When the fire was discovered, 204 cows were led to safety from the cow barn; there were 25 more cows out to pasture at the time.

The fire was discovered by the wife of the farm manager at 7:45 P.M., and the first fire fighters at the scene were the volunteers from Blackstone. Blackstone Fire Chief William Haganey happened to be driving past the property at the time and, spying the smoke, stopped to investigate. He and his brother aided the manager and a neighbor to remove the 204 cows to safety. The Chief then directed operations as firemen arrived. Before their arrival, employees turned a milk room hose on the flames but without avail.

Additional aid was quickly summoned from Woonsocket, R. I., and Bellingham, Mass. There was the usual scarcity of water. A fire hole was quickly drained and then the city and town pumpers from two states stretched 1,900 feet of hose to a large brook. The main supply line was branched into four smaller but effective lines and by this means the fire fighters were able to hold the fire at the point where men are shown on the roof of the illustration herewith.

Firemen of Engine 3, Woonsocket, remained with local firemen until dawn. Blackstone firemen estimated a million gallons of water were pumped onto the blaze, which raged out of control for two hours. Firemen, however, had to maintain watch over the smoldering hay for many more hours. Next day a farm loader was used to aid in overhauling the smoldering material which was taken to a swamp and dumped.

The barn, in which the hay and grain were stored, was two-stories, measuring 30 x 40 feet. The horse barn was 24 x 30 feet. The cow barn, which was saved despite the intensity of the blaze in the adjoining structure, is 400 feet long.

The only casualty was a Bellingham fireman, Wilbur Woodman, who suffered head burns.

Volunteer Companies Aided in North Carolina

Mecklenburg, N. C. County Commissioners on June 26th voted to contribute $100 per month to each of three Mecklenburg volunteer fire departments, effective July 1, 1950.

Chairman Sid McAden made it clear that the county's contribution should in no way halt individual support of the voluntary organizations, which have depended entirely upon such help in the past.

New departments wishing to apply for county assistance must appear before the county commissioners.

The $100 per month aid will not be used to pay salaries for personnel of the three departments, but only for maintenance of fire fighting equipment. Membership fees, dues, and borrowed money have paid for this equipment in the past. D. G. SPENCER.

Missouri Valley Chiefs Meet

The annual conference of the Missouri Valley Association of Fire Chiefs was held at Dodge City, Kansas, on June 5-7.

Newly elected officers are: President, Chief Fred J. Wells, Fargo, N. D.; First Vice-President, Chief T. P. Treadwell, Fort Collins, Colo.; Second Vice President, Chief Roy S. Moulton, Fire Prevention Bureau, Kansas City, Kans.; Secretary Treasurer and Director to I. A. F. C., Chief Ray Tiller, Waterloo, Ia.

Speakers and topics on the program were as follows: Fire Marshal Clyde Lachem, Kansas, "Our Place in the Future"; C. E. Thompson, Mill Mutual Insurance Co., "More Ideas on Mill and Elevator Fires"; Chief William J. Cawker, President, I. A. F. C., "Future Plans of the International Association of Fire Chiefs"; Chief William H. Gardner, Underwriters Insurance Patrol, Kansas City, Mo., "What is the Service Value of a Salvage Cover"; Chief Harvey L. Baldwin, Kansas City, Mo., "Poll Books and Pike Poles"; Honorary Chief Waldo Schermann, Hermann, Mo., "Organizing and Operating a Small Town Volunteer Fire Department"; Director

Photos Courtesy Kansas City, Kans., Fire Dept.

Left: Retiring President of the Missouri Valley Association of Fire Chiefs, Chief Robert Van Fleet, Hastings, Neb. Center: Chief William J. Cawker, of Topeka, Kans., President of the I. A. F. C., Addresses the Conference. Right: Chief Leo Urbanski of St. Joseph, Mo., Tells the Conference of How the "This Is Your Life" Program Was Developed, and on Which He Was the Featured Guest.

of Fire F. B. Wornall, Kansas City, Mo., "Sedatives or Stimulants"; Chief Joe I. Fetters, Instructor, State Board of Vocational Education, Lincoln, Neb., "Public Relations"; L. L. Dunaway, Grinell Co., "Emulsion Extinguishment of Oil Fire with Water Sprays"; Keith Royer, Firemanship Instructor, University of Kansas, "Firemanship Training in Kansas"; Chief Fred J. Wells, Fargo, N. D., "Smoke Extraction."

One of the interesting features of the conference was a two-hour demonstration on the proper use, and the hazards of improper use of gasoline, flammable liquids and liquefied petroleum gas, staged by Messrs. Evans and H. F. Brown of the U. S. Bureau of Mines.

There were eleven exhibits by manufacturers of fire apparatus and equipment in the exhibit room.

Mulcahey, Former I.A.F.C. Secretary-Treasurer, Honored

James Mulcahey, former chief of the Yonkers, N. Y. Fire Department, who served for many years as secretary-treasurer of the International Association of Fire Chiefs, and who died last year at the age of 91, was honored on July 2nd when a bronze memorial placque was unveiled to his memory at Yonkers' fire headquarters.

In addition to Yonkers civic and fire officials, the ceremonies were attended by leading fire chiefs and other dignitaries of Westchester County, including officials and members of the Fire Chiefs' Emergency Plan of Westchester County, of which Chief Mulcahey was one of the founders.

Chemical Fire a Headache to Firemen of Three Towns

Spontaneous ignition of a bin of pulverized tobacco is believed the cause of a fire that caused $300,000 loss to the plant of the Virginia-Carolina Chemical Corp., in St. Bernard, just outside Cincinnati, on May 27, 1950. It also caused fire fighters of St. Bernard, Norwood and Elmwood Place plenty of discomfort before it was controlled.

Three large buildings and two railroad boxcars were destroyed in the seven hour struggle. The three structures, all interconnected, consisted of one four-story corrugated iron steel crane shed, and two three-story frame buildings in which tobacco, super-phosphate, phosphate rock and muriate of potash were stored. The box car were filled with fertilizer. To add "flavor" to it, piles of sulphur stored outside the buildings caught fire and the sulphur dioxide generated caused fire fighters severe irritation of the throat and lungs.

Despite the handicaps under which they labored, the firemen managed to save four buildings on the company's 10-acre site.

The fire was first seen by an engineer of the sulphuric acid plant shortly before 6:00 P.M. The alarm was transmitted by an ADT pull box in the plant to the St. Bernard Fire Department, a full paid organization, which responded with two modern pumpers, a service ladder truck and life squad ambulance. The Cincinnati Salvage Corps also rolled on this alarm.

An explosion in the dust laden atmosphere, shortly after they got to work imperilled several firemen and sent flames racing through the plant. Captain Harry Freudenberg and several St. Bernard firemen also narrowly escaped injury when the roof of the wooden buildings collapsed at 7:35 A.M.

Chief Charles Fisher of the St. Bernard forces called for aid from Norwood, Ohio, Fire Department under an existing mutual aid pact in the area. That paid department sent their 750 G.P.M. piston pump and crew of Engine 3 in charge of Chief William Murray. Shortly after, the Elmwood Fire Department under Chief Fred Behrens was summoned on the mutual aid call, and responded promptly. This provided a fire fighting force of five pumpers, and a ladder truck and ambulance, including both units of the St. Bernard department, which called to duty all off-shift personnel.

The water supply proved sufficient, hydrants on the plant grounds being used. One St. Bernard pumper took suction from a reservoir in an adjoining plant.

Notwithstanding dust explosions and the handicaps of chemical fumes and heat, there were no serious injuries among the fire fighters.

As the fire progressed, aid was asked of Cincinnati, but because St. Bernard was not among the cities which had contracted with the Cincinnati Fire Department for stand-by fire protection, Fire Chief Barney J. Houston could not comply with the request.

Photo by Burton Wells

Southeastern Association of Fire Chiefs Have Lively Conference at Augusta, Ga.

Top: Chief R. O. Noble (at microphone), retiring President, acts as master of ceremonies at annual banquet. Center. A good crowd enjoyed an equally good banquet. Bottom: Members of the Augusta Fire Department put on novel floor show. Conference was held at Sheraton Bon Air Hotel, on May 22-24. Chief D. A. Cliatt, Augusta, was the host to the gathering.

News of the Manufacturers

The "Sprinkler Stopper" Approved by N. Y. C. Bureau

The Sprinkler Stopper Co., of Englewood, N. J., announces the approval of its "Sprinkler Stopper" by the New York City Bureau of Standards and Appeals.

Sprinkler Stopper

The Sprinkler Stopper is designed to be inserted in various types of open sprinkler heads to shut off the flow of water from the head without necessitating shutting down the entire system.

The new device is designed to be conveniently hung and easily inserted in the sprinkler head. Mounted on a pole of convenient length, ladder climbing is eliminated and the shut-off is simplified.

Pumpers Take Long Trip

One of the longest driveaway deliveries in fire engine history occurred recently when fire chiefs Larry Boyle and Albert Dell climbed aboard their recently purchased FWD fire engines at Clintonville, Wis., and piloted them home to Big Bear Lake and Big Bear City, California, a distance of 2,353 miles.

Chief Dell's new fire fighter is a 550 GPM job.

The Big Bear Lake region is located in the mountains some 50 miles northeast of San Bernardino, California, at an elevation of 6,800 feet above sea level. Nearly all streets in the city and roads in the area they protect from fire are steep, twisting mountain roads, some climbing to over 8,000 feet above sea level.

In the winter a total of 20 feet of snow on an average falls in this area and snow often lies 9 feet deep on the level. The chiefs expect to have to drive these mountainous roads many times on their way to fires when unplowed snow lies two feet deep over the roads.

The Big Bear Lake area is a favorite summer and winter resort for the Hollywood film colony and the chiefs have the responsibility of protecting millions of dollars' worth of valuable resort property from fire. Forest fires in the valuable timber lands in the sides of the mountains are also a serious problem. The chiefs often work cooperatively in fighting fires in their territories.

Improved Units For Two-Way Mobile Radio

A newly styled and engineered mobile radio communication equipment, designed for adjacent channel operation

New RCA Carfone for Two-Way Mobile Radio Service

in the 152 to 174-megacycle band, was announced recently by the RCA Engineering Products Department, Camden, N. J.

Latest in the established RCA Carfone line for police, fire, forestry and other mobile services, the new Type CMV-1B equipment features separately styled speaker and control units for greater versatility in mounting locations.

The CMV-1B develops greater power output in both the 152 to 162-mc and 162 to 174-mc bands, while retaining the 31-circuit selectivity and revolutionary transducer modulation control which won performance laurels for its predecessor, the Type CMV-1A Carfone equipment. The equipment has a low susceptibility to intermodulation interference.

The new Carfone is designed to operate from any 6.3-volt car battery with a battery drain of 8.4 amperes in standby use, or 20.6 amperes while transmitting. Power output is 15 watts in the 152 to 162-mc band, and 13 watts in the 162 to 174-mc band. The equipment weighs less than 30 pounds, and the transmitter-receiver is a single metal-shielded unit only 5¼" x 9" x 16" in size.

New Dry Powder Extinguisher

A new hand fire extinguisher has been brought out in two small models, 2½ pounds and 4 pounds, for homes, passenger cars, trucks, private garages, factories, and summer cabins, by the Safety First Co., Elmsford, N. Y.

The new extinguisher is called the Safe-T-Meter, and according to the manufacturer, anyone can operate either of the new models with one hand. No tools are required, either for operating or re-filling. All Safe-T-Meter hand portable extinguishers come complete with one re-charger cylinder, and recharging is accomplished in a few minutes, without tools and without technical knowledge.

The Safe-T-Meter is filled with dry chemical, which is non-toxic, non-corrosive, non-abrasive, and will not conduct electricity, and is unaffected by heat up to 150 degrees, and is unaffected by cold, dampness or dryness.

New Safe-T-Meter Extinguisher

The meter, which gives the new extinguisher its name, is at the top, and discloses at all times just how much chemical is in the cylinder, and whether or not it requires re-charging.

It is operated by pointing at the fire, lifting the locking lever, which is one of the handles, then squeezing the other

Fire Chiefs Larry Boyle of Big Bear Lake and Albert Dell of Big Bear City, California, with Their New Fire Engines, Pictured Just Before Leaving the Factory at Clintonville, Wis., for a 3,253 Mile Drive Home to California

handle, which releases the chemical.

When the contents of the extinguisher are discharged, the gauge shows it clearly, and without removing the extinguisher from the premises, is a simple operation to unscrew the valve body from the container, fill with Safety First dry chemical, and pressurize the contents through the discharge nozzle to the indicated mark on the gauge.

Eureka Celebrates 75th Anniversary

Last month, one of the oldest manufacturers of fire hose, the Eureka Fire Hose, division of United States Rubber Company, celebrated its 75th anniversary.

As jovial, energetic Joe Green, manager, points out: "We've reached a ripe, but not old age. Hosemakers, like fire chiefs, can't let the years wear 'em down."

Today Eureka is a part of the huge, sprawling United States Rubber Company which has more than 40 factories and 44 branches throughout the world. It produces millions of feet of fire hose annually for every fire-fighting purpose, and services fire departments with a full line of fire-fighting accessories.

Throughout the years its policy has been one of progress through service. Consistently it has been a leader in fire hose construction and many of its developments have contributed to the rapid growth and refinement of fire-fighting methods in U. S. cities and towns.

There was a time, however, when Eureka was nothing more than an idea in the head of an unsuccessful hat manufacturer.

Back in 1873, J. Van D. Reed, caught in the depression following the Civil War, saw his Milford, Conn., hat company vanish in a pile of bills payable.

He was able to salvage one loom from the "wreck." Experimenting with this loom, he developed the first circular woven seamless fire hose fabric.

It was the first advance in fire hose construction recorded since the development of copper riveted leather fire hose developed in 1808. And perhaps the most revolutionary advance since the days in the second century when Apollodurus, a Greek architect, used the intestines of an ox and a compressible membrane bag to throw water to high places.

Reed was able to obtain a patent on the process and the Eureka Fire Hose Company was organized in 1875 with offices at 32 Warren St., N. Y. C.

Its first full section of woven hose was lined, coupled and presented as a sample to the New York Fire Department. An order was promptly forthcoming.

Another early order for the new type hose was recorded in the National Firemen's Journal of December 1, 1877, the third issue of the magazine, as follows: "M. Benner, Fire Marshal of the Chicago Fire Department, has ordered from the Eureka Fire Hose Company, 10,000 feet of celebrated 'Eureka' seamless cotton hose . . ."

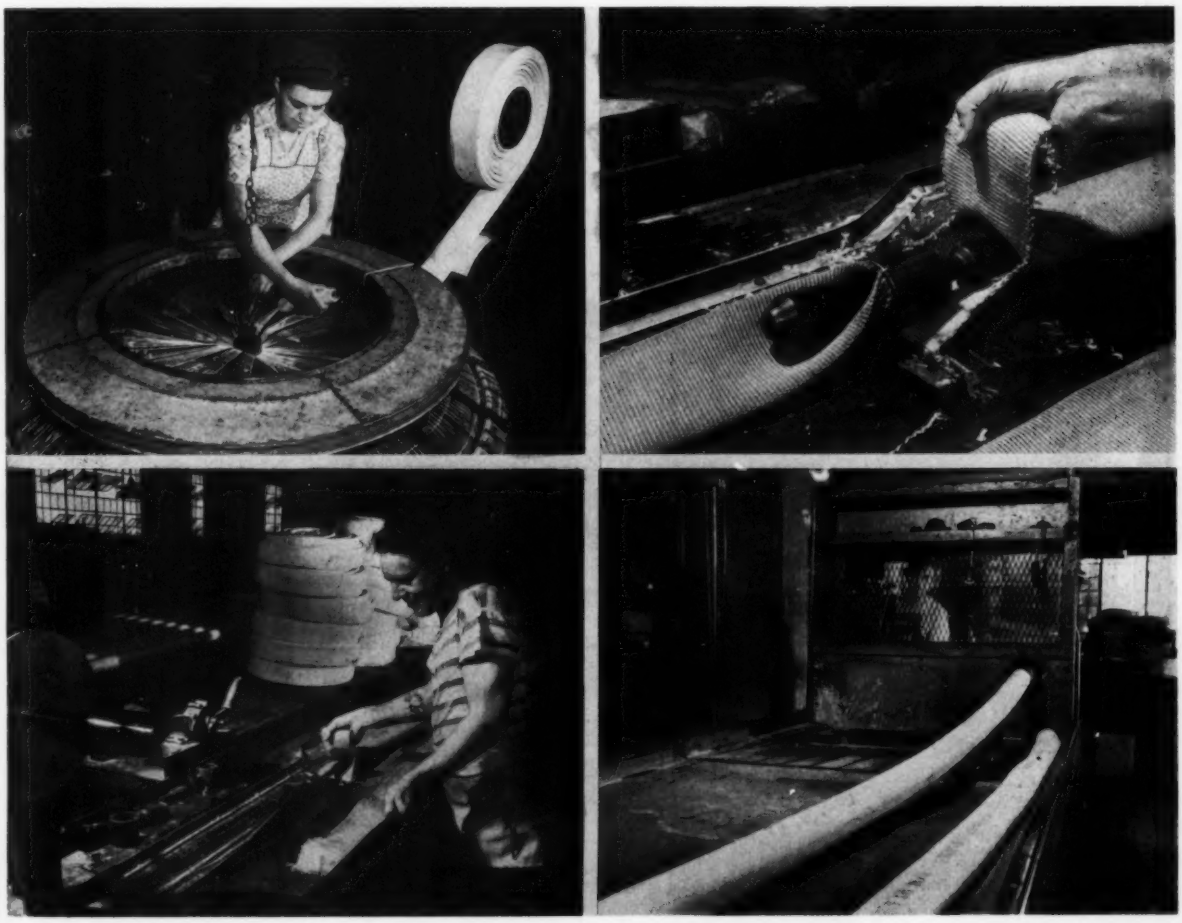
The company was in business and unprecedented demand for the new hose required moves to factory space in Brooklyn and finally its own plant in Jersey City to keep pace.

In 1876 the company exhibited its hose at the Centennial Exposition with a sad experience. The hose remained unpacked in damp clammy surroundings and severe mildew resulted. An antiseptic treatment for preventing mildew was developed a few month later by the company. Anti-mildew treatment has been a "must" for all fire hose ever since.

Its line was expanded rapidly to include hose coupling, nozzles, and other basic necessities for fire fighters.

Among the early accessories sold by

(*Continued on page 698*)



Upper Left: Jane Kwasnik Weaves Carcass of High Strength Cotton Yarn for Fire Hose. Upper Right: For Added Strength and Protection. Many Municipal Fire Departments Require Double Jacketed Fire Hose. Here Inner Jacket Is Inserted in Outer Carcass. Lower Left: John Felt Inserts Rubber Tube in Woven Cotton Jacket. Entire Hose Is Then Vulcanized Where Jacket and Tube Are "Welded" Permanently Together. Lower Right: Before Shipment, Fire Hose Gets a High Pressure Water Test. Above, One Section of Hose Is Being Tested While Other Has Been Coupled and Lies Ready for Test

California Offers Many Attractions to I.A.F.C. Visitors

From a professional point of view, San Francisco should be particularly interesting to the members who attend the various sessions of the 77th Annual Conference of the International Association of Fire Chiefs from September 12th to 15th.

Whether they enter it by the great Golden Gate Bridge or the Bay Bridge or cross the Bay on one of the ferries from the East Bay shore they wil see, crowning Telegraph Hill, a tall white structure. That is Coit Tower, a gift to San Francisco from a charming and fascinating woman, Lillie Hitchcock Coit, who was a lifelong "fire buff" and even as a little girl was a favorite of one of the city's volunteer fire companies of the last century. In San Francisco, too, is one of the few monuments ever raised in honor-of-the firemen. In Washington Square, in the Italian Quarter, the fire chiefs will find a massive statue of firefighters, the work of Haig Patigian, which was the admiring gift of Mrs. Coit.

The early history of San Francisco is also intimately bound up with conflagrations, which flamed up and died down in the years before there was any organized fire-fighting organization. San Francisco sprang tumultuously into being with the great Gold Rush. Suddenly she was a city without any of the organization or facilities of a metropolis, without proper ordinances or essential protections. So it is not strange that during the 20 months between December 1849 and June 22, 1851, the city was six times swept by fire. In the first fire, more than $1,000,000 worth of property stored in tent houses was destroyed. Another fire on May 4, 1850, was even more disastrous and the third, a month later, was still more damaging and resulted in prohibition of all tent and cloth houses within the fire limits. The fifth fire destroyed $7,000,000 worth of property, and the sixth was the last great fire until the most famous of all, that of April 18, 1906, which cost the lives of 452 persons and property loss of $350,000,000.

But the chiefs will see few traces of that great fire of 44 years ago. The beloved city recovered swiftly from this as well as from the other fires and has held two world fairs since that time; "The fire" is now only a memory and a reminder of the vigorous nature of San Franciscans, famous the world over for their spirit and their hospitality. Here the city sits, amiable and delightful on her many hills, with her incomparable views of the great bay, with her mighty bridges, happy to remember her exciting past but always looking energetically toward the future.

There is no other city like her. The visiting chief may speculate on what it would be like to race his engines and trucks up and down her steep hills.

Let him abandon his speculations and take a ride, instead, on her famous cable cars that will carry him over those same hills. He may wonder about getting his equipment into narrow Grant Avenue to fight a fire. Leave that problem to the local department, and let him spend an evening wandering through Chinatown,

(*Continued on page* 689)

Courtesy of Californians Inc.

Aerial Photograph—Downtown Section of San Francisco

Part of waterfront and section of San Francisco Bay Bridge in foreground; Golden Gate Bridge near center; Marin Hills in upper right.

Coit Tower, on Telegraph Hill, San Francisco, Gift of Mrs. Lillie Hitchcock Coit, Pioneer Fire Buff of San Francisco.

Redwood Empire Association Photo

Civic Center in the Heart of San Francisco

San Francisco, on the tip of a peninsula between the Bay of San Francisco and the Pacific Ocean, with the Golden Gate at its northern tip, is only seven miles across in both directions. The downtown section faces the Bay. Market St., the broad diagonal in the left of the picture, extends from the bayside Ferry Building to Twin Peaks, at the center of the city. Our view is westward from a point half way out Market St. It shows the Civic Center. Buildings in the picture are as follows: (1) the Civic Auditorium, seating 10,000; (2) the Health Center Building, housing various clinics, the Central Emergency Hospital, and offices of the Health Department; (3) the City Hall; (4) the Opera House; (5) the Veterans' Building; (6) the one-time Empire Hotel, now occupied by offices of the Treasury Department, and, just beyond it, the Federal Building; (7) the Main Library of the San Francisco Public Library system; (8) the California State Building, and (9) the Whitcomb Hotel.

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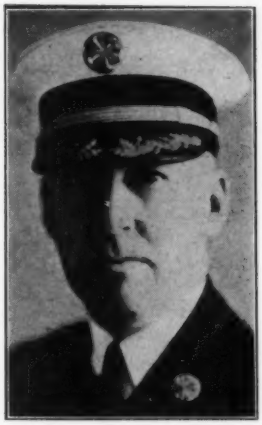
Topeka, Kans.



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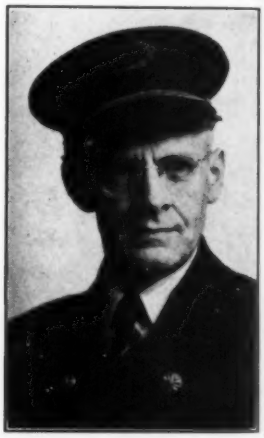

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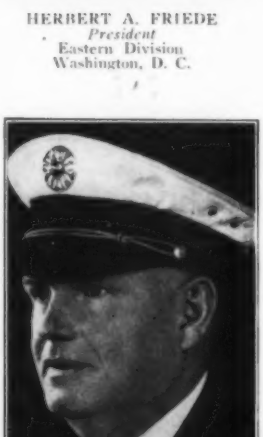

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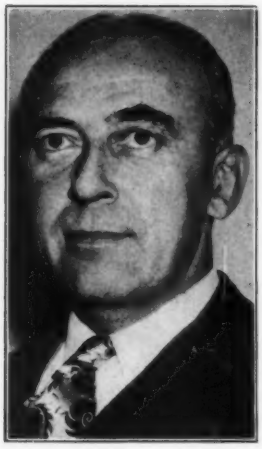

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CHIEF EDWARD WALSH
Host Chief
San Francisco, Cal.

OFFICER OF DIVISIONAL ASSOCIATION; GENERAL MANAGER, EXHIBIT CHAIRMAN, HOST CHIEF, I. A. F. C.

First Aid Association Meets

Julian S. Wise of Roanoke, Va., was elected president of the International Rescue and First Aid Association on June 18 at the group's annual convention at Columbus, Ohio. He succeeds David H. Slaybeck of Caldwell, N. J.

Other new officers include Dr. Herbert J. Stack of New York University, and Eugene Fields, Omaha, Neb., vice-presidents, and Donald J. Luther of Dunellen, N. J. treasurer.

Dr. Marcellus A. Johnson, Jr., of Roanoke, Va., was named chief medical advisor to the Association.

The International Association also accepted an invitation to hold its 1951 convention in Roanoke. Date for the meeting will be decided upon later.

Wise is captain of the Roanoke Life Saving and First Aid Crew and president of the Virginia State Association of Rescue Squads.

The International Association was organized two years ago and now has member groups in practically all states and in Canada.

New Mexico Firemen Ask Pensions and Instructor

At the annual convention of the New Mexico State Firemen's Association, held in Tucumcari, N. M., in June, the organization recommended a firemen's pension system and the hiring of a state fire instructor. A committee of six was appointed to press for the pension system, to be financed by the firemen, state and/or Federal Government. The members are: J. F. Prue, of Roy, N. M.; I. J. Stockwell of Carlsbad; Pat Kane of Albuquerque; Bill Bass of Estancia; Art Westerfield of Albuquerque and W. D. Moore of Raton.

Delegates voted to return to the pre-war setup, under which a fire instructor toured the state to teach volunteers in the latest fire fighting practices. They also urged legislation to make it legal for local fire departments to exceed city speed limits when carrying inhalators, resuscitators or other emergency firs aid equipment not necessarily needed for fires. At present it is illegal for fire squads to exceed city speed limits except when going to a fire.

Officers named by the Association for the coming year are: Archie Green, of San Jon, president (succeeding J. F. Prue of Roy); A. L. Connor, of Hobbs, first vice-president; Gene Boren of Silver City, second vice-president; Clyde Cole of Truth or Consequences, third vice-president. W. F. Wynn of Hobbs was re-elected secretary treasurer.

Thanks THEO. A. ROSENWALD

Fast Trip to I.A.F.C. Conference

Earl C. Watson, District Manager, American-LaFrance-Foamite Corp., 445 Lake Shore Drive, Chicago, Ill., has arranged a quick trip to the I.A.F.C. Conference in San Francisco, to accommodate those who cannot spare the time to go by "Corrigan Special," which makes a number of sightseeing stops enroute. This fast trip will be on the famous "California Zephyr," operated in the lines of the Burlington, Rio Grande and Western Pacific Railroads.

A bulletin on the trip issued by Mr. Watson states:

"This is one of the fastest, most scenic and enjoyable routes. A side trip can be made to Los Angeles and return to San Francisco or return home via Los Angles at no extra cost. If enough of you so desire, we can also arrange for special cars for the return trip.

"It will be noted by schedule that we will arrive in San Francisco at about 4:50 p.m. on Sunday, September 10, giving you a night and a full day before the convention starts.

"We have no thought of going into competition with the "Corrigan Special" which will be a very enjoyable trip. Our only thought is to make it possible for those who cannot or who do not care to spend so much time enroute, to get together for a very enjoyable trip over a beautiful route, with only two nights on a sleeping car."

DAY-BY-DAY ITINERARY

Friday—Sept. 8

Lv. Chicago—Burlington Route
Union Station—3:30 PM CST

You will want to explore America's newest and most modern train; the buffet-lounge car provides a favorite rendezvous for coach and pullman passengers. The train carries five Vista Dome cars, enclosed in glare resistant glass. Here passengers may ride in comfort and enjoy an unobstructed view in every direction.

Saturday—Sept. 9

You arrive in Denver, the Mile High City, about breakfast time. The entire day is spent gliding through the mighty Colorado Rockies, Glenwood Canyon, arriving at Salt Lake City in the late evening.

Sunday—Sept. 10

Early this morning you enter California in the heart of the majestic Sierra Nevadas, and then pass through the spectacular Feather River Canyon, and on to Oakland Pier, for a 20 minute ride beneath the spectacular Oakland Bay Bridge, to your Convention City.

Av. San Francisco—Western Pacific
4:50 PM PST

For those who wish to return direct from San Francisco to Chicago, the California Zephyr operates on the following schedule:

First Day

Lv. San Francisco—Western Pacific
Market Street Station—9:00 AM PST

Third Day

Ar. Chicago—Burlington Route
Union Station—1:30 PM CST

For those desiring diverse routes we will be glad to assign available space in one direction on the California Zephyr and arrange for reservations on trains in the opposite direction. You may return via Los Angeles or the Pacific Northwest at no additional rail fare.

Round-trip rail fares, Chicago to San Francisco

	Fare	Tax	Total
Reclining reserved seat chair cars..	$ 81.25	$12.19	$93.44
First class for pullman travel..	114.25	17.14	131.39

One-way Pullman fares, Chicago to San Francisco, or reverse

Lower berth, for one or two.....	$18.25	$2.74	$20.99
Upper berth	13.90	2.09	15.99
Roomette	25.55	3.83	29.38
Double bedroom ..	40.15	6.02	46.17
Bedroom suite for three or four...	69.40	10.41	79.81

Reservations should be sent to Mr. Watson at the above address.

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FIRE EQUIPMENT MANUFACTURERS AND REPRESENTATIVES

Selling the Fire Department Through Inspections

"Selling" is one word that we are going to have to inject into our training manual. First, I would like to give the definition of salesmanship. There are many definitions, but here is one that will fit all: "Salesmanship is the ability to get the other fellow to do what you want him to do; to understand and accept your suggestions and to profit by such an acceptance." Now in order to have a sales situation, three things must be present: A *salesman*, a *prospect*, and a *product*. Let's look at each one separately as they apply to the fire service. First, the salesman. To be a good salesman—a good fireman—we must have a thorough knowledge of our product, our job. This is an evergrowing thing. The fact that we have knowledge of our job does not preclude the value or importance of further sudy.

I am reminded of the old saying, that has been handed down through the ages: "As long as you're green, you'll grow, but when you get ripe, you'll rot."

Prospect is the second phase of this selling job that we have to do, and do you know that we have more customers than any other salesmen. The great American public, every living soul in your town, is your prospect. And they are all different. Some will praise your efforts, some will condemn you, some will be afraid, some will be careless and neglectful, some will do and say the things that will cause us to rejoice with the thoughts of a job well done, while others may react in a way that tries a man's soul. But it is our job to sell them all on the third phase, which is our product.

Perhaps one word will describe our product although there are so many parts to it. That word is *protection*. While you may know each and every part well, the art of getting your customers, *the public*, to accept them, is where salesmanship enters into the fire service. The first part and, no doubt, the most thrilling and glamorous, is actual *fire fighting*. Most people think of that alone, and need little selling on your importance, when they need you to extinguish a blaze, and *especially* if it is their own home that is on fire.

The second part of protection, and the one that should take precedence, is *fire protection*.

We, of the Rockford Fire Department, are trying to do this job by inspections. About a year ago we really went into high gear on inspection, by all stations, of their respective territories. A general order was issued that there must be one man from each station inspecting in his territory at least six hours a day. The only excuses for any Fire Captain not having a man out inspecting was because of bad weather, house drilling, or special events. This meant that twelve men were inspecting each day in our city.

We insisted that each man should look his best, and the instructions were that in the event any serious violations were found, a report was to be made to headquarters immediately.

At headquarters, we have two Fire Inspectors who are trained in this type of work, and one inspector is a photographer.

When a complaint is received at headquarters from one of the fire stations, or from a citizen, the two special fire inspectors drive immediately to the scene of the violation and photograph the reported hazard.

The photographer returns to the photography laboratory or dark room, and develops the pictures. Within an hour the two men return and locate the owner, or occupant, and right there the violation is shown, and agreements are made to correct the violation, or a warrant is served for the correction of the violation. To date, the arrests have been few and far between. In fact, most of the people, where contacts like this have been made, are startled by the picture and usually go farther than the law requires in making the correction.

The coming procedure for Fire Department successful operation, is *selling fire prevention*, which is always cheaper than extinguishment. With national, state, and school agencies getting the bulk of the tax monies, there isn't much left for the Fire Department to do but to try and sell the American public *fire prevention*.

I know from experience that in presenting yourself to the public through inspections, municipal activities, parades, open house, newspaper stories and fire demonstrations, you will soon have your local people thinking that the fire department is one agency that is like a man's wife—you can't get along *with* her, and you can't get along *without* her.

We must create in people's minds that the fire department is the public's insurance policy, and to do this you must sell yourself through inspections. I have people tell me every day that, "Your inspectors were in our place the other day, and they said we sure have a clean business establishment."

The businessman takes pride in telliing this to others, and his motive for saying it is because he is selling his business to others. That is what we must do with the fire service: sell it to the man who pays the bill! WAYNE E. SWANSON, Chief, Rockford, Ill., Fire Dept. *Abstract of paper presented before Illinois Fire College.*

Youth Confesses Setting Fatal Hartford Circus Fire

A 20-year-old Ohio youth, Robert Dale Segee, confessed to touching off the Ringling Bros. & Barnum & Bailey Circus fire that killed 168 persons in Hartford, six years ago. According to Ohio State Fire Marshal Harry J. Callan, Dale also confessed four slayings and setting more than a score of major fires in Maine, New Hampshire and Ohio. He said the record speaks for itself in deciding whether the husky Ohioan is a pyromaniac, a person who gets a sexual thrill from setting fires.

Segee's signed statement, withheld from the public, is reported to contain a wierd story of a man driven to apply the torch by visions of a flaming red horseman, and of an Indian who comes to Segee at night and orders the youth to set fires. Ironically, some investigators related the flaming red horseman to the illustration used in advertising by the National Board of Fire Underwriters. Segee remained undetected, according to Guy B. Cline, Pickaway County, O. prosecutor because he left the scene of the fires instead of staying nearby as an ordinary pyro' usually does.

Marshal Callan's prepared statement on the Hartford fire said:

"It has been definitely established that Segee was employed by the Ringling Brothers & Barnum & Bailey circus from June 30 to July 13, 1944. He joined the circus on June 20 at Portland, Me., and the day he joined the circus there was a fire on tent ropes that was extinguished without loss.

"The circus moved from Portland, Me., to Providence, R. I., and while there another small fire occurred on the tent flap, which again was extinguished without loss. On July 6, 1944, at Hartford, Conn., the major fire occurred, which took the lives of 168 people.

"A thorough and comprehensive in-

(*Continued on page* 690)

says CHIEF H. P. WHITE
of Groton, Conn.

"It was 2 a.m., temperature 4 below zero, and deep snow on the ground—when we reached the U. S. Navy Submarine Base in New London. The Headquarters Building was completely enveloped in flame.

"Quickly, our department took station across an alley on the roof of an adjacent building. Great sheets of fire twisted and curled above and around us. First mattresses had to be laid so our men wouldn't freeze to the roof. Then hour after hour we hurled out water without shutting down the pumps.

"After 6 long hours the blaze was finally extinguished. Our fighting men with their rugged, reliable equipment had helped save hundreds of thousands of dollars in valuable government property."

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New York Firemen Awarded Medals

Mayor William O'Dwyer and Fire Commissioner Frank J. Quayle (represented by First Deputy Fire Commissioner James Moran in absentia due to illness), officiated at the annual presentation of medals to members of the New York Fire Department for distinguished service, and to the next of kin, of those who sacrificed their lives in the performance of duty during 1949. The observances were held in the City Hall Council Chambers.

The year's presentations included for the first time, a new medal awarded, together with a $100 savings bond, by the Third Alarm Association, Inc., New York organization of fire buffs. This was awarded to the member of the department for demonstration of valor beyond the call of duty. The Third Alarm Association Medal went to Fireman James M. McGrath of Ladder 7, Manhattan. Oddly enough of the three first medals presented to members of the department, in 1898, two of them, the Bennett Medal and the Bonner Medal went to members of the same company.

In his pre-oration Mayor O'Dwyer referred affectionately to his brother, Fireman Jim O'Dwyer of Engine 56 who was killed in 1926, while responding to an alarm.

Fire Chief Peter Loftus headed the delegation of fire fighters. Medal recipients were: Fireman W. J. O'Donnell, Ladder 111, Bennett, medal; Fireman W. J. Sherin, Engine 321, Bonner Medal; Lieutenant R. A. Tierney, Public Assembly, Todd medal; Fireman Thomas Yasvin, Jr. Battalion 44, Prentice medal; Lieutenant B. J. Cannon, Engine 8, McElligott medal; Captain F. J. Brennan, Ladder 114, Dougherty medal; Fireman Tim O'Connor, Ladder 107, Conran medal; Fireman J. P. Canny, Ladder 31, Kenny medal; Fireman W. P. Bresnan, Engine 72, Johnston medal; Lieutenant J. C. Healy, Engine 265, Delehanty medal; Captain E. F. Schneider, Engine 226, Brooklyn Citizens medal; Fireman J. I. Butterly, Ladder 149, Scott medal; Fireman F. J. Sergi, Ladder 12, Brookman medal; Captain P. A. Lucas, Ladder 108, Commerce & Industry medal; Fireman Peter Bynum, Ladder 25, O'Dwyer medal; Fireman F. J. Walsh, Ladder 158, LaGuardia medal; Fireman F. E. Voight, Ladder 11, Roosevelt medal; Fireman John Marcinisen, Ladder 13, Stiefel medal.

Posthumous awards of medals were made by the Uniformed Firemen's Association to the widows of Lieutenant G. P. Oates, Engine 283; Fireman L. J. McElroy, Engine 214; Fireman C. E. A. McAuley, Engine 233; Fireman P. E. Farley, Ladder 136; Chief G. E. Beak, Battalion 3 and Lieutenant J. A. Lyden, Engine 240.

The Administration medal went to Captain J. L. Flannery for "exceptional executive ability in fire alarm assignment and planning." The Stephenson Medal for discipline went to Captain M. J. Cleary, Engine 83.

I.M.S.A. to Meet in New York

The 55th Annual Meeting of the International Municipal Signal Association, Inc., will be held at Hotel Commodore, New York City, September 18-21.

Deputy Chief Thomas P. O'Brien, in charge of New York City's Fire Alarm System, is General Chairman for the Convention, and Deputy Chief Inspector Francis A. Burns, Supt. Police Dept. the Co-Chairman. Technical Program Chairman is Wm. F. Hennessy, Electrical Engineer.

The program will cover all phases of municipal signaling work: fire alarm, police signals, traffic signals, public safety radio communications for police dept., fire dept., street lighting, outdoor and recreational lighting, etc.

The largest number of exhibitors in the Association's history have taken space and will exhibit the latest equipment and materials used in this field.

A full entertainment program has been provided for both men and ladies, assuring an enjoyable time after business and technical sessions are concluded.

Providential Rain Saves City

A providential rain early on the morning of June 15 reportedly saved the once-sinful mining town of Virginia City, Nev., from destruction by fire. The rains came as flames raced through tinder-like old wooden structures and plank sidewalks.

Firemen who were called could do little because there was no water in the dried-up mains of the parched town. Three old buildings, which escaped the big Virginia City fire of 1875 were razed before the providential downpour.

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TYPE 166 Same as above—Flashing but without oscillator. 3800 ft. range —6" diameter $12.00
TYPE 168 Same as 166—8" diameter and 4500 foot range $17.00
TYPE F'N'A (Fore'N'Aft). Same as 166 except drum shaped with two reflectors and two red lenses, one facing forward and one toward rear, flashing $22.00

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Type NRF Street Warning Beacon

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Complete with battery ... $75.00

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3¼ in. lens with high quality built-in flasher $14.00
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Size: 11" x 8¼" x 3¼". Wt., 14 lbs. Size: 8¾' x 8¼" x 3¼". Wt., 10 lbs.

The PJZ-4 *littlefone* is a complete, self-contained 2-way radio station, weighing only 14 lbs. . . . with output of *two full watts!* Has 10-tube FM transmitter and ultra-sensitive 12-tube receiver in one compact, crystal controlled unit . . . ready for immediate 2-way operation. Powered by Wet Rechargeable Batteries. Gives 8 hours continuous service between charges which can be made from car battery or 115 Volts AC.

The *littlefone* complies with FCC regulations. Gives remarkable coverage between units or when used with a fixed station or mobile equipment. Opens vast new opportunities for the effective use of 2-way radio communications. Enables constant contact between and with men in the field. Provides new efficiency and flexibility in field operations of public safety, industrial radio services and land transportation. Available in *hand carry* and *back pack* models. Easy to carry. Simple to operate. Thoroughly dependable.

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Six Long Island Departments Fight $500,000 Fire

Reported handicapped by a delayed alarm, volunteer firemen of six Long Island, N. Y. communities fought for hours to control a raging fire that destroyed a square block Coca Cola bottling plant in Rockville Centre late in June. Loss was estimated at over $500,000.

The bottling plant together with an adjoining garage; a refrigeration plant and three quonsets in the rear, were wrecked by the fire which reportedly broke out shortly after 4:00 P.M. The property is located at Merrick Road and Sunrise Highway, at the site of the fatal February Long Island Railroad grade disaster. The blaze is said to have been the worst in Rockville Centre in over 15 years.

The local fire department received the alarm at 4:18 P.M., but according to Mayor W. Harry Lister of that community, the flames were already through the roof of the plant garage and storage space when the first call was received. A garden hose found at the spot where the fire broke out led local authorities to believe that the alarm was delayed while plant employees attempted to fight the fire, the cause of which was attributed to a spark igniting gasoline spilled during filling operations on a truck.

From the point of origin on the east side of the garage on Banks Avenue, the fire spread rapidly. The gasoline tank and pump are said to have exploded ten minutes later, just as the Rockville Centre aerial ladder company firemen were getting first water on the blaze.

The blistering heat fused many of the Coca Cola bottles in the 100,000 cases that were destroyed. Ammonia fumes from the exploding refrigeration plant and the acrid smoke felled many firemen.

A back draft early in the fire furthered the spread of the fire into the adjoining bottling works and the three quonset huts at the rear. A complete cave-in of the roof of the garage and storage space about 30 minutes after the fire was discovered provided greater draft for the flames, which enveloped fifty 50-gallon drums of syrup and leaped high in the air. Additional gasoline explosions also spread the blaze and threatened the lives of fire fighters.

Firemen driving the plant's forked lift trucks plowed into the smoke and fire to remove mountains of bottles in order to get at the blaze in the wooden cartons.

The column of heavy smoke, together with the response of out-of-town apparatus and police forces, and the broadcasting of the news of the serious fire at the rush-hour period, brought vast crowds of the curious, reminiscent of the hordes which blocked traffic and caused confusion at the Long Island Railroad tragedy five months before.

As it was quickly apparent that Rockville Centre's fire force could not alone handle the blaze, assistance was asked of neighboring communities. Men and equipment responded from Oceanside, Lakeview, Lynbrook, Malverne and East Rockaway. In all, ten pumpers operated on the blaze, taking suction from every hydrant in the vicinity, and from the creeks north and south of Sunrise Highway leading to Mill River. Water pressure was sufficient but it was reported there were insufficient hydrants. Four aerial ladders were operated as water towers, covering all sides of the burning buildings. The aerial ladder of Engine Company 3 of Rockville Centre, the first apparatus at the scene, had water on the blaze from its ladder pipe a few minutes after the alarm was received at the Center Avenue firehouse a block away. Ladders from East Rockaway, Lynbrook and Oceanside also proved their worth.

Twenty policemen from Rockville Centre aided by officers from Lynbrook and County Police, attempted to control the rush-hour traffic and crowds of curious. An emergency first-aid station was set up in a nearby automobile salesroom, where the score or more of fire fighters were treated for smoke poisoning and other injuries. Two firemen were hurt seriously as a result of a cave-in, but there were no fatalities.

At the height of the fire, over 5,000 gallons of water per minute were being poured on the flames from ladder pipes and hand lines operated from every vantage point. Firemen also kept a wary eye on exposures to leeward of the fire.

At about 11:00 P.M. most of the companies had returned to quarters. Shortly after midnight, however, Chief Edmund Schmidt of Rockville Centre and his forces were re-called to the ruins to extinguish fire at the rear of the plant which had flared up under a freshening breeze. Several lines were operated on this blaze for almost an hour. Firemen with floodlights then maintained watch for the rest of the night.

Greensboro Fire Department Gets That "New Look"

Five spanking new units are proudly displayed by the Greensboro, N. C. Fire Department before fire headquarters. The Greensboro Department has been gradually replacing all old units in service.

Rockville Centre Fire at Its Height

Puerto Rico Fire Losses Drop

The Insular Fire Service of Puerto Rico, under the command of Chief Ramon Gandara, report a marked decrease in fire losses over the past three years. For the year of 1947-48 the total fire losses for all communities on the island amounted to $2,480,588.10. The following year, 1948-49, they had dropped to $1,741,200.02, while for the past year, 1949-50, they reached a new low of $1,116,538.32.

During the last year, 498 fire inspections were made by members of the Insular Fire Service.

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June Fire Losses

Fire destruction in the United States during June is estimated at $57,116,000, an increase of 10.3 per cent over losses during the same month a year ago, it was announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters. This was the greatest fire loss recorded for the month of June during the past 21 years.

This was the fifth month this year during which fire losses were higher than for the same month of 1949. However, the June, 1950, total represented a decrease of 2.8 per cent from the losses of $58,765,000, reported in May, 1950.

Losses for the first six months of 1950 reached $367,117,000, an increase of $18,310,000, or 5.2 per cent, over the fire destruction during the same period of 1949.

For the 12 month period ending June 30, 1950, losses totalled an estimated $685,846,000. This is an increase of 1.8 per cent over losses of $673,441,000, recorded for the 12 months ending June 30, 1949.

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

Station Fire Halts White Plains Commuters

On the surface it didn't look like much of a fire, but it gave White Plains, N. Y., firemen a stiff stuggle, and it delayed 11,000 homeward-bound White Plains commuters. That's the brief story of the two-hour fire involving the wooden platform of the White Plains railroad station.

The fire, discovered at 4:45 P.M. on the New York bound platform, was controlled at 6:20 P.M. and the first train moved through the station at 6:52 P.M.

While most of the City of White Plains, 60 available firemen fought the stubborn fire, which was whipped by a stiff southerly wind, sixteen northbound trains were tied up between Grand Central and Hartsdale, the stop before White Plains. Six New York bound trains also were stalled between White plains North Station and Chatham, northern terminus of the division.

The blaze destroyed three-fourths of the 600-foot long platform, with reported loss of $20,000. It also damaged a wooden shelter for passengers. The platform, which is on an embankment, is 25 feet above the main railroad station on the street level.

The fire broke out, possibly from a discarded cigarette, about 50 feet south of the main station and was fed by old creosote-soaked ties covered with tar and asphalt making the platform, which gave off heavy acrid, clouds of smoke, visible for miles.

First responding fire companies stretched lines up the embankment, one company having to lay in over 1,000 feet in order to reach a hydrant. It was not until the third rail was de-energized that fire men were able to come to close grips with the blaze. Then holes were cut in the platform and cellar pipes and distributors used effectively. However it appeared that as rapidly as the blaze was knocked down in one place it sprung up in another, aided by the breeze.

Fire fighters were commanded by Fire Chief Abbott Griffin and Deputy Chief Edward McDonald. It was one of Chief Griffin's final large fires; he retired July 1, on which date Chief McDonald was advanced to head of the department.

One fireman suffered a possible leg fracture when he fell through the platform. Two alarms were sounded for the blaze.

Top: White Plains Railway Station Platform Blaze at Its Height. Bottom: Cellar Pipes, Operated Through Flooring Controlled White Plains Station Platform Blaze

Singerly Dedicates New Station

The Singerly Fire Company, of Elkton, Md., dedicated its new fire house in May with elaborate ceremonies, a feature of which was the distribution of an attractive Souvenir Program and History of the Company, founded in the early 1890's.

The modern three-door station, started in 1949, houses a 1920 Ahrens-Fox, a 1925 Hale, a 1930 Ahrens-Fox and 1947 International and Ford pumpers, the last three units of which are fitted with tanks to carry considerable water.

The Dedication Ceremonies included music by the Elkton Band, addresses by local and state government officials, including Spencer J. H. Brown, Maryland State Association, and Fred Burke, Delaware State Association presidents, and Millard Tawes, past president, Maryland State Firemen's Association. E. D. E. Rollins acted as master of ceremonies.

At the ceremonial banquet, held May 27th, Pres. G. Mitchell Boulden of the Company welcomed the guests. E. D. E. Rollins served as Toastmaster. A high point of the banquet was the presentation of an iron lung by the County Commissioners on behalf of the Moose Club.

IRVING JOHNSON.

New Officers of Maryland State Firemen's Association

The new officers elected to head the Maryland State Firemen's Association for the coming year are: G. Mitchell Boulden, of Elkton, president; Cromwell C. Zembower, of LaVale, first vice-president; B. Harrison Shipley, Jr., of Ellicott City, second vice-president; Ted S. Gardner, Sr., of Riverdale Heights, secretary; William A. Wilson of Midland, treasurer, and Rev. James W. Minter of Hereford, Chaplain.

John O. Cockey, of Glyndon, is chairman of the Board. Fourteen committees have been appointed; Irving W. Johnson of Glen Echo serves as chairman of the Committee on Fire Service Extension.

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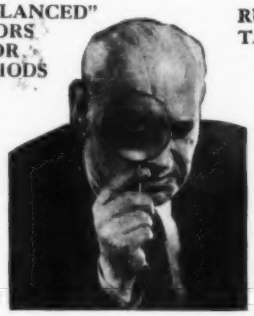

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This illustration is a perfect example of careful Central workmanship. While this 3-stage pumper is mounted on a Chevrolet 6400 chassis, Central will build to your specifications on any chassis you prefer.

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If you do not have a new Central catalog listing trucks and complete line of equipment, write today ... it's yours for the asking.

CENTRAL FIRE TRUCK CORP.

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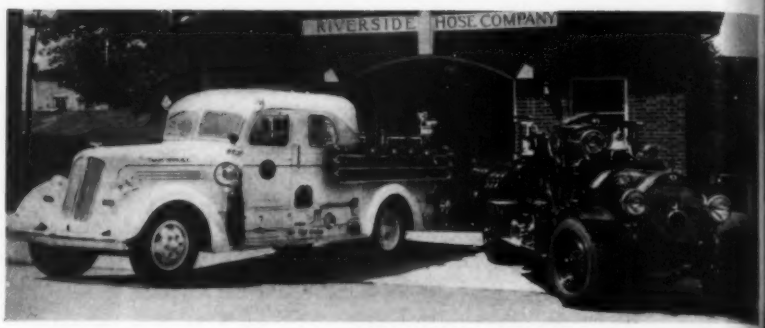
Historic Tarrytown Company Celebrates Fiftieth Year

The entire community of Tarrytown, N. Y., including its six fire companies, this year will celebrate the 50th birthday of its crack unit, Riverside Hose Company No. 4.

Beginning with memorial services for deceased members on August 27, the observances will include drum corps and drill contests, a Mardi Gras parade of local and visiting fire organizations, band concerts and other events, climaxing with a huge Firemen's Parade on Labor Day, September 4th.

The Company claims the distinction of being the first volunteer fire unit to install two-way radio on its apparatus. The unit was also one of the first to depart from the conventional fire department red, and garb its truck in white.

The celebration is in charge of the "50th Anniversary Committee - Tarrytown Fire Department" Thomas Vincent, General Chairman. The companies participating are: Hope Hose Co. No. 1; Conqueror H. & L. Co. No. 1; Phoenix Hose Co. No. 2; Consolidated Engine Co. No. 1; Riverside Hose Co. No. 4; Washington Engine Co. No. 2.



Riverside Hose Company, of Tarrytown, N. Y., Which Celebrates Its Fiftieth Birthday

Radium Salvaged

A one-inch platinum capsule, containing 50 milligrams of precious radium and valued at approximately $1,100, was found by members of the Bridgeport, Conn., Fire Department, and officials of the Bridgeport Hospital, on June 28. The capsule was located through the use of a Geiger counter.

James M. Dunlop, administrator of the hospital, said the radium capsule was discovered missing after a technician had removed a dressing from a patient under treatment in the hospital.

Mr. Dunlop revealed that two vials of radium were in the dressing, but that the technician unknowingly disposed of the dressing after removing only one of the vials.

No trace of the missing radium was found in the hospital, and the search then turned to the Wordin Avenue dump after it was learned that ashes from the hospital incinerator had been carted there.

Firemen from Engine 7, Bostwick Avenue, under the direction of Asst. Fire Chief Arthur T. Platt, began fighting a fire, at the hospital's request, in the area where the Geiger signal had previously been recorded.

The Geiger counter was operated by Marvin Slater, of the Sleane Physics Laboratory, of Yale University. Dr. Barkley M. Parmelee, chief radiologist at the Bridgeport Hospital, said the platinum vial had a high burning point. He said it resembles somewhat an ordinary house fuse. There was no danger from coming in contact with the capsule, he added. Neither the platinum vial or the radium was damaged by the fire.

TOM MAGNER

A Small Platinum Vial of Radium, Valued at Approximately $1,100, Missing from Bridgeport Hospital, Bridgeport, Conn., Was Located in the Wordin Avenue Dump in That City, June 29, Through the Efforts of Bridgeport Firemen and Officials of the Hospital. The Search Was Conducted with a Geiger Counter, Operated by Marvin Slater of Yale University (Left), Assisted by Assistant Fire Chief Arthur T. Platt (Center) and Dr. Berkley M. Parmelee of Bridgeport Hospital

Ohio Industrial Fire School to Meet

The next annual fire safety training conference of The Ohio Fire Brigades Association, Inc., will be held in the University School Building at The Ohio State University, Columbus, Ohio, on September 11, 12 and 13, 1950. The association was organized some time ago because of the widespread demand for authoritative information relative to the organization and training of private and industrial fire brigades. The association is doing much worthwhile work in this field.

The conference is designed with two purposes in mind as follows:

Group A: To provide advanced instruction and training for leaders and members of organized fire brigades.

Group B: To provide instruction for those desiring to organize fire brigades and to provide preliminary instruction and training for newly organized fire brigades.

While the two groups will attend separate sessions part of the time, there will be a number of joint sessions where all will attend. Chief Glen Barr of the Columbus, Ohio, Fire Department will be in charge of Group A and Chief Thomas O. Brightwell of the Dayton, Ohio, Fire Department will be in charge of Group B. Other prominent instructors and speakers will participate.

The conference is not limited to members of the Association, but is available to all, regardless of geographical location.

Provision has been made for housing those attending the conference, in the stadium dormitories at The Ohio State University, which, as well as a banquet and floor show, is included in the registration fee.

The cost of the entire program is $25.00 per person for members of The Ohio Fire Brigades Association, Inc. The cost to non-members is $35.00 for one person, which includes a one-year membership for his sponsoring company. The cost to additional members from the same company is $25.00 per person.

Application for attendance at the conference, accompanied by the registration fee, should be sent to C. S. Kuskowski, Columbus Coated Fabrics Corporation, Seventh and Grant Avenues, Columbus 16, Ohio.

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INDIAN FIRE PUMPS are first line of defense against incendiary attack. Air raid wardens, fire departments, war plants, forest rangers and private citizens need plenty of these portable, clear water extinguishers.

Nozzle is adjustable for powerful, straight stream or fine spray. Big, rust proof tank holds 5 gals. of water. Civilian defense organizations were equipped with thousands of **INDIAN FIRE PUMPS** during the last war. Don't delay! Send in your order NOW. We will ship immediately.

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Fire Chief L. L. Hadlock (left) and Battalion Chief Walter Bruce officially open new $275,000 Central Fire station on City Hall Park, Ogden, Utah. New house replaces old quarters built in 1891.

New Fire Headquarters for Ogden

On July 5 the new Central Fire Station at Ogden, Utah, was officially placed in service.

The old headquarters, which was vacated, was built in 1891, when fire-fighting equipment was either drawn by hand or behind a stout pair of horses.

The new structure, which Ogden Fire Chief L. L. Hadlock terms "the last word," occupies about 24,000 square feet of floor space. It is two stories high, with a basement and faces south on Twenty-sixth street between Washington boulevard and Grant avenue, in the heart of the downtown district.

On the ground floor are five double-truck stalls, dispatchers office, complete Gamewell alarm headquarters, and a battalion chief's quarters.

On the top floor are offices of the chief, a dormitory capable of billeting 35 men, recreation hall, dining room and complete modern kitchen facilities.

Nine brass poles provide easy access from the dorm to the spacious, roomy apparatus room, and automatic doors connected to the Gamewell alarm circuit roll up to allow crews to get away in a hurry.

The shower room is of the latest sanitary type and the locker room is tastefully furnished with color scheme of brown and green.

Fire department shop facilities are available on the ground floor, and there is a large hose room with air conditioned drying tower also rising from the ground floor, and a completely equipped hobby shop in the basement.

An auxiliary power unit, run by a six-cylinder engine, kicks in at the first faltering of electric power, and maintains the building as an emergency center in event of power failure.

Fifteen men on two shifts each will man the station, Chief Hadlock said, and efficiency of the entire department will be substantially increased.

Now operating from Central station are a 1,000 gallon centrifugal, just delivered in time for station opening (a second similar truck will be delivered within the month), a 750 gallon centrifugal; a 500 gallon, single-stage centrifugal and a 100-foot aerial. Also on the equipment floor are an ambulance, a fire prevention car and a chief's car.

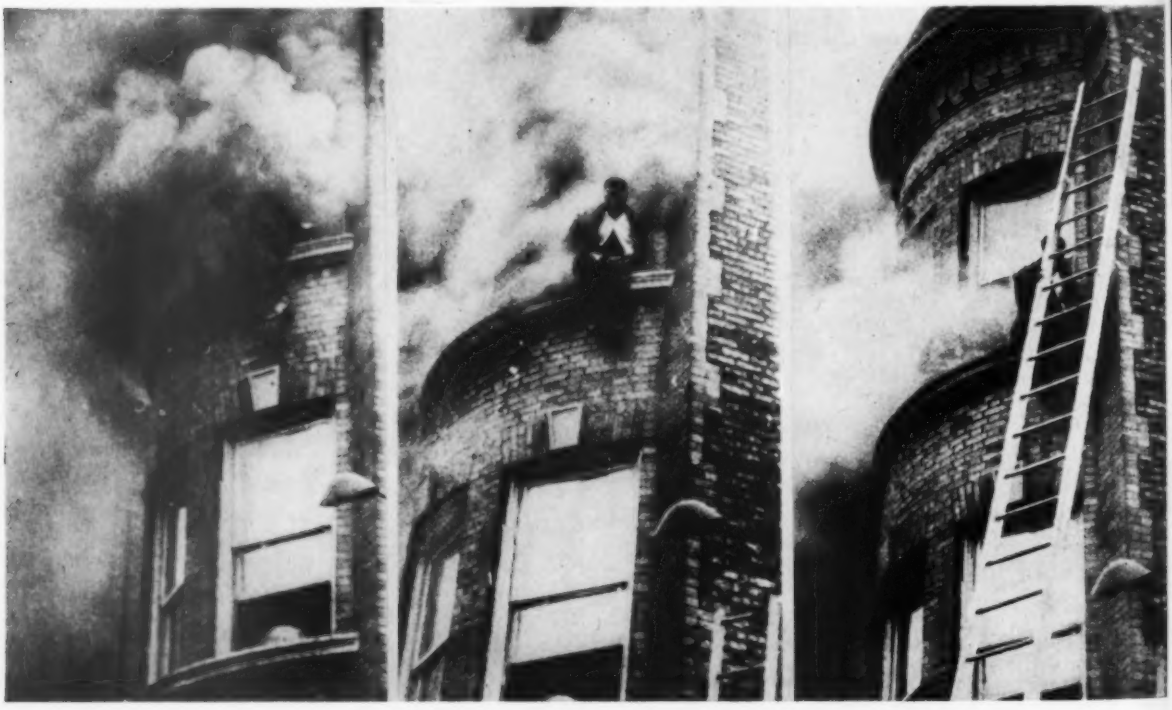
City fire equipment, painted white for several years, is now being redone in red to match the two new pumpers, Chief Hadlock reports.—CHAS B. KEHER.

Syracuse Hospitals Being Made Fire-Safe

Inauguration of an intensive drive to heighten the fire safety of Syracuse, N. Y., hospitals was announced recently.

The object of the current campaign is to make hospital personnel, from the trustee and administrator down, conscious of all factors that enter into the problem of making the City's hospitals as safe as is humanly possible, along the lines of fire prevention and fire protection.

(*Continued on page 690*)



Why Ladders in a Fire Department?—Ask Ezime Morris

Ezime Morris, 59, sits on a window still (left) almost obscured by smoke issuing from his burning room, in Chicago, after he had been trapped by flames on the third floor of an apartment building, wondering whether to jump or sweat it out a few seconds longer.

The anxious Morris spots Heaven-sent firemen raising a ladder to rescue him, and he moves as far as he can to escape the enveloping smoke and heat (center). Tip of the beam ladder can be seen at lower right. The third picture shows the near-victim not waiting for firemen to reach him, but about to climb aboard the ladder, with fire literally "on his tail."

The blaze, which caused heavy damage to the third floor apartment, was reported caused by the explosion of a defective gas stove.

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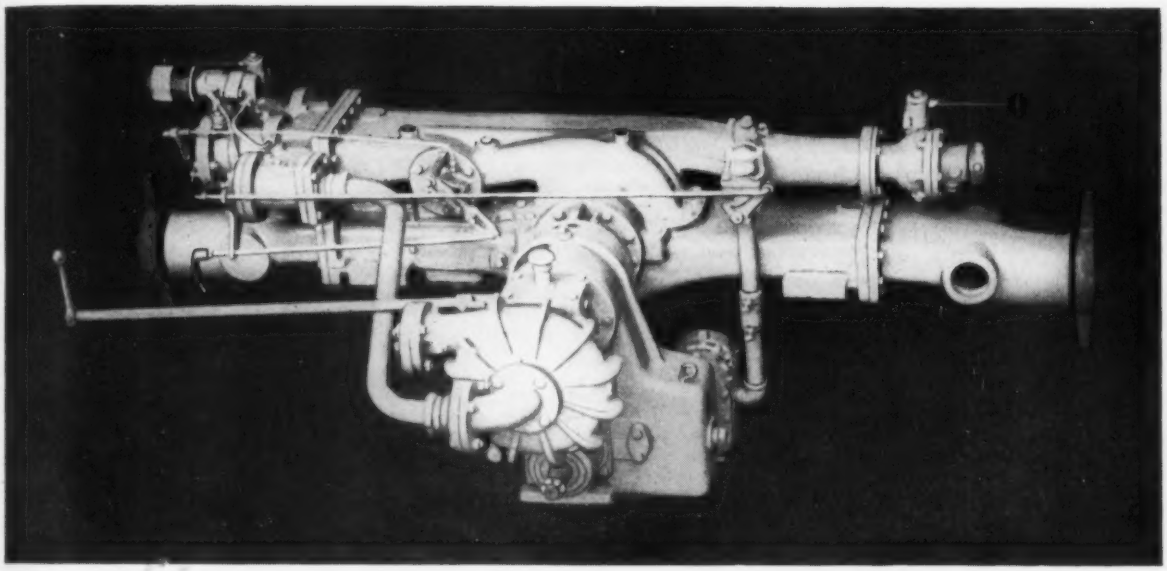
Specify HALE Type HPZL



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- The Hale Type HPZL pictured above, provides High pressure performance, i.e. 600 to 700 lbs. pressure for use wherever High Pressure Fog is effective.
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Other Hale Fire Pumps

ZMHD Series: Two-stage Centrifugal — largest in the Hale line of fire pumps. A powerful fire-fighting weapon to have working for you when the emergency calls for all the volume and pressure that can be brought to bear on a big fire.

Underwriters' Ratings:
1000; 1250; 1500 GPM at 120 and 150 lbs.

ZMF Series: Two stage Centrifugals; Push-buttom Priming.
Underwriters' Ratings:
1000 GPM at 120 and 150 lbs.

ZSF and ZF Series: Two-stage centrifugals with Push-button Priming. Heavy Duty pump for modern high-power apparatus up to 750 GPM. Underwriters' Ratings: 500; 600; 750 GPM at 120 and 150 lbs.

ZL Series: Two-stage Centrifugals. The country's most popular pump for medium-sized fire engines. Underwriters' Ratings: 500; 600 GPM at 120 and 150 lbs.

GS Series: Single Stage Centrifugals. Underwriters' Ratings: 500; 600 GPM at 120 and 150 lbs.

HPG Series: Single-Stage Centrifugal designed for use on light trucks with high speed engines to operate from booster tank and produce medium and high pressure fog. Rating: 100 GPM at 600 lbs. Maximum volume 150 GPM.

HHB; H; 2HB: Booster Pumps; rotary. 100 to 200 GPM capacities @ 100 to 200 lbs.

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FALSE ALARMS

Manners

Mr. Goldberg, returning from Europe, was assigned by the head steward to a table for two. Here he was presently joined by a polite Frenchman who, before sitting down, bowed, smiled, and said, "Bon appetit." Not to be outdone, Mr. Goldberg rose, bowed, and said, "Goldberg."

This little ceremony was repeated at each meal. On the fourth day, Mr. Goldberg confided his complexity to a man in the smoking lounge:

"It was like this, you see. The Frenchmen tells me his name—Bon Appetit—and I tell him my name—Goldberg. So we are introduced. That is good. But why keep it up day after day?"

"Oh—but you don't understand Mr. Goldberg," replied the other. "Bon appetit isn't his name. It means, 'I hope you have a pleasant meal.' "

"Thanks," said Goldberg.

That night Mr. Goldberg arrived late for dinner. Before sitting down he bowed formally, and said, "Bon appetit."

And the Frenchman rose, smiled, and murmured, "Goldberg."

A farmer, who had hired a new city boy, asked him if he could milk cows. The boy said he could, so the farmer took him to the barn where 30 cows were to be milked. A little later, the farmer returned to ask the boy how he was doing.

The answered, "I've milked 20, but there's just one thing."

"What is that?"

"Don't you think I ought to have a bucket?"

"What were poor Jim's last words?"

"He said, 'This tastes like the real stuff.' "

Residue

Father looked hard at his wife and then at his son. "That boy has taken money from my pocket!" he stormed.

"Ernest," she protested, "how can you say that? Why, I might have done it."

Father shook his head. "No you didn't; there was some left."

Oops, Sorry!

Mrs. Earl Gibbs, of Cleveland, said she stopped and got out when she heard a clanging noise under her brand new car.

The car seemed to be running all right without the big steel disk lying on the road but she decided to take it home for her husband to look at.

"I just tugged and pulled," she said, explaining how she loaded it into the ar trunk. "I guess I was so scared I'd wrecked the car that I could have lifted almost anything."

Her husband took one look at the big steel disk and suggested she take the manhole cover back to the City Works Department.

Mistress: "Marie, when you wait on my guests at the table tonight, please don't spill any thing."

Maid: "Don't you worry, ma'am; I never talk much."

Epitaph

"Here lies the body of John B. Gay,
He died maintaining his right of way,
He was right, dead right as he sped along,
But he's just as dead as if he'd been wrong."

Right Is Wrong

Teacher (to history student): "You want to know why you didn't pass your history test? Well, your answer to the question, 'Why did the pioneers go into the wilderness' was interesting from the standpoint of romance and sanitation, but it was still incorrect."

Temperance Speaker: "I am proud to say though there over fifty saloons in this town, I have never been in one of them."

Heckler: "Which one was that?"

In a phone call to the editor of a local newspaper, a man explained that his uncle had been a regular subscriber for half a century. "He's always been a model of propriety—doesn't smoke or drink; never uses strong language and hasn't ever been to a theatre or a cinema," the nephew explained. "He's going to celebrate his 80th birthday tomorrow."

"How?" asked the editor.

There's something feminine about a tree. It does a strip tease in the fall, goes with bare limbs all winter, gets a new outfit every spring and lives off the saps all summer.

A chap walked into a butcher shop and said to the clerk: "Give me a pound of kidleys."

The clerk replied: "When you said kidleys, didn't you mean kidneys?"

At this, the customer became slightly irate and remarked: "That's what I sled, diddle I?"

Lunatic Asylum Guard: "Hey, did you see an escaped lunatic pass this way? He's very short and he's thin. Weighs about 250."

Motorist: "How can he be short and thin and weigh 250 pounds?"

Guard: "I told you he was crazy."

"Do you like your new governess, Bobby?"

"No, mam; I hate her. I'd like to grab her and bite her on the neck like daddy does."

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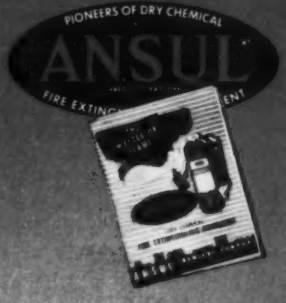

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE PROTECTION OF AIRPORTS

THE interest of the fire service in airport protection is evidenced by the number of fire chiefs who have taken the trouble to answer in detail the ten main and several supplementary questions contained in the current Round Table discussion. These reports come from cities of every size, where there are, as well as where there are not, airports but where fire forces are concerned in the fire protection problem presented by the increasing air traffic.

Because of its extent and importance this Round Table will be continued in subsequent issues of this Journal.

Where airports are located within city limits, most municipalities either have a fire station on, or very close to, the airport, or have crews which operate airport equipment. Where municipal airports are outside the city, the city's fire departments generally respond to alarms therefrom. Many fire departments respond to airport alarms, from airports located outside their cities. In some instances, protection is divided between city and township, or branches of the Armed Forces.

Apparatus in use covers a wide range and includes both regulation municipal trucks, specially constructed airport crash trucks, high pressure units and Government-type aircrash units. The reports indicate a desire for more of the equipment specially designed and built for airplane crash fire protection rather than the limited, and inadequate equipment which some airports are forced to rely upon. They suggest also airport equipment is not always adequate.

Protective apparatus is supplied and maintained both by municipalities (particularly where the fire departments have permanent airport installations) and by airport authorities. In some cases, where airports are used both by the Armed Forces and commercial interests, there may be joint protection. Where airports provide their own protection it appears that this is sometimes limited in scope and quality.

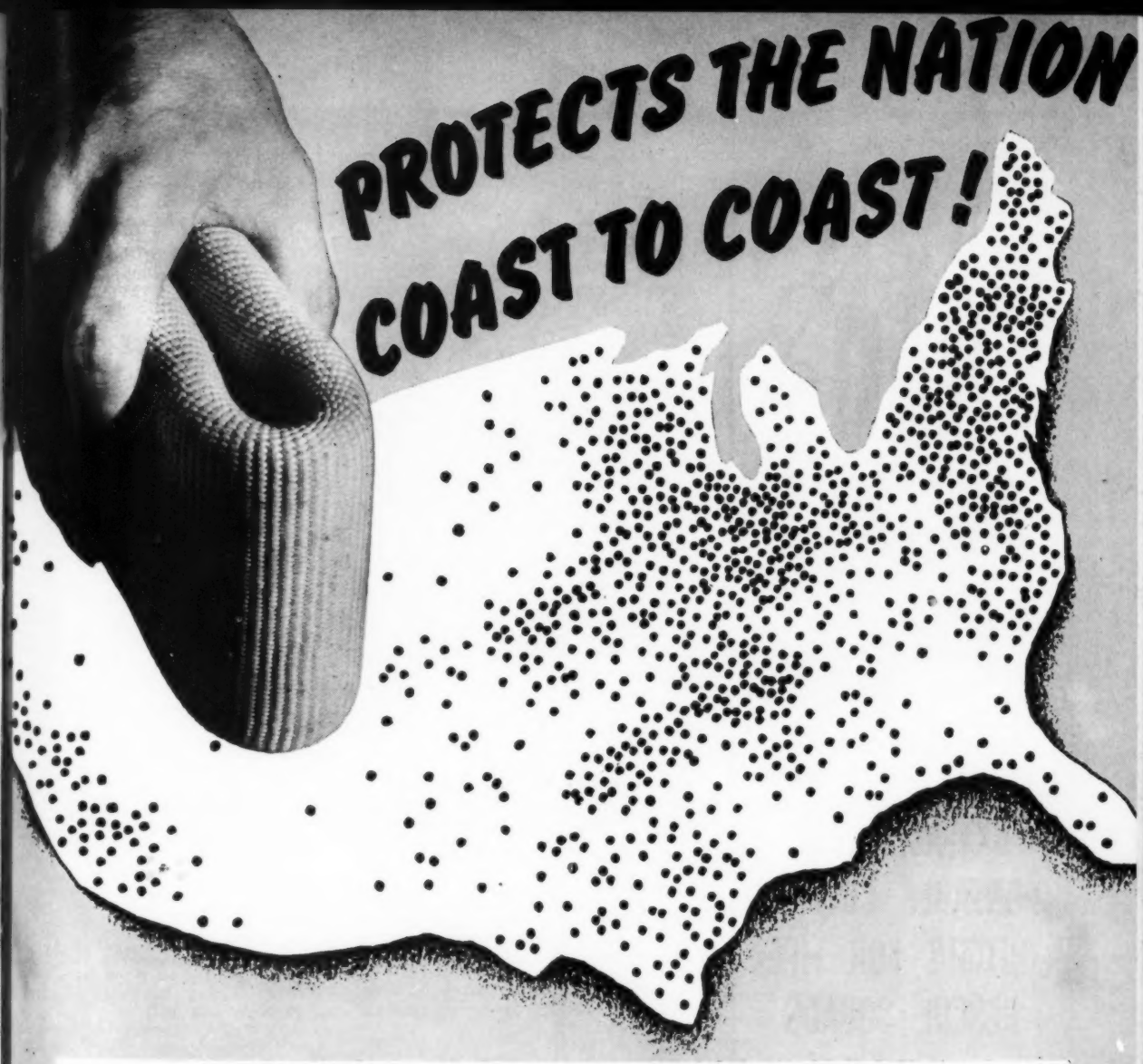
Personnel engaged in airport protection includes both trained municipal firemen and airport employees who may or may not be trained by professional fire fighters. Military personnel are usually trained by their own authorities. There is evidence of some difference of opinion on training requirements and procedures.

A number of city chiefs report that instructors train airport personnel in fire control and the use of municipal equipment. Airport personnel, however, is not depended upon for fire fighting where there are municipal firemen available. There is no established procedure for training of airport personnel in aircrash fire fighting and hangar protection.

The cost of apparatus, and its maintenance, is met in some cases en-

HERE IS THE TOPIC

1. Does your fire department provide fire protection for the airport, or airports, within or near your city?
2. What type of apparatus and equipment is utilized?
3. Is the apparatus provided by the airport or your department?
4. Is apparatus stationed permanently at the field?
5. Are the fire fighters trained firemen of your department? If not, are they recruited from the ranks of civilians?
6. Do airport personnel assist the fire fighters in emergencies?
7. Who pays for apparatus and equipment? Who pays the salaries of the fire fighters if they are stationed at the airport?
8. Do the commercial airlines or any other agencies using the airport steadily or with regularity pay any part of the cost of fire protection?
9. Does any other municipal department, or commission share in the cost of fire protection?
10. Are hangars and other buildings sprinklered?



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tirely by the municipality; in others, by commercial interests who control the airport, and in some cases by both. The Armed Forces generally provide and pay for their own apparatus and equipment. Salaries of firemen on the airport are usually paid by the city which also pays the costs of responses to airports outside the limits to which they respond on call.

The commercial airlines provide some fire protection and, where they maintain crash crews, usually pay for this protection. They may pay the entire cost of their airport fire protection, or the municipality or other government may share the expense.

Some airport hangars are protected by sprinklers and some are not. Where airports are within city limits and subject to local ordinances and fire department surveillance, they are usually sprinklered.

Readers are invited to send in their comments on this subject which will be continued in the September issue. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

A. J. Mullaney, Chief Fire Marshal, Chicago, Ill.: The Chicago Fire Department provides fire protection for the airports within the corporate limits of the City of Chicago.

A full box alarm response consisting of four engines, hook and ladder, Du-gas and Cardox equipment. Midway Airport is provided with twenty-one special sub-surface fire hydrants attached to a well gridded water system with 10 in. or larger sized piping throughout.

The apparatus is provided by the Chicago Fire Department and there is a four-door fire station located within the area of the airport which includes a 1000 gallon pumper, an 85 ft. aerial ladder; one Cardox crash truck equipped with 4500 lbs. of Carbon dioxide, also foam and other special equipment; one chemical apparatus, and one ambulance.

The fire fighters are trained firemen of our department.

Airline personnel also assist the fire fighters in emergencies.

The City of Chicago pays for all apparatus and equipment and also pays the salaries of the firemen stationed at the airport.

The entire cost of fire protection is paid out of appropriation funds of the Chicago Fire Department.

"No other municipal department or commission shares the cost of fire protection except for the portable equipment and other fire protective installations which are included in the structures occupied and owned by the various air lines.

A large percentage of the hangars and other buildings located on the airport area are fully sprinklered.

Milton C. Andrews, Chief, New Bedford, Mass.: The New Bedford Municipal Airport is located within the city. On the sounding of a box alarm or a telephone call, our local fire department would send fire apparatus to the airport. Also, the Airport Commission provides fire protection through a fire station at the airport, housing a Bean High Pressure Fog Fire Fighter, having facilities to supply foam as well; a Chevrolet Crash Truck equipped with pre-mixed foam and power take-off pump; four fifty pound CO_2 cylinders piped to 150 ft. of hose and nozzle; a 500-gallon pump on a 2-wheel trailer; plus considerable portable carbon tetrachloride and CO_2 extinguishers. Apparatus at the airport is provided and maintained by the city through the Airport Commission. Apparatus was turned over to the city by the Federal Government at the same time as the airport itself was turned over to the city.

Apparatus is stationed permanently at the field.

Firefighters at airport are not firemen from the local department. They are civilian airport employees, engaged in various duties around airport, but in event of fire or possible crash landing, or other emergency, are assembled as a fire brigade, man apparatus, and fight the fire. In most cases they would sound a box alarm, which would send five pieces of our local fire apparatus.

The local apparatus and firemen coming in on alarm would cooperate with the airport fire brigade.

The city would pay for any new apparatus and equipment necessary. Salaries of civilian employees acting as a fire brigade, are paid by the city.

The commercial airlines using the airport regularly do not pay any of the cost of fire protection.

No other municipal department or commission shares in the cost of fire protection.

A large municipal hangar is of wood and not sprinklered, this being a hangar erected by the Federal Government during last war. A large commercial hangar, steel trussed, metal covered, is sprinklered. A small commercial hangar, same construction, is not sprinklered. There are numerous small barrack type buildings of wood, not sprinklered.

C. M. Johnson, Chief, Knoxville, Tenn.: The McGhee-Tyson Airport near Knoxville is operated under the control of the City of Knoxville and is under the supervision of the Service Department. We have stationed at the airport a small chemical truck with a limited amount of equipment. In case of fire of any consequence at the airport the city fire department would be called. We would respond with whatever apparatus we deem necessary to take care of the situation.

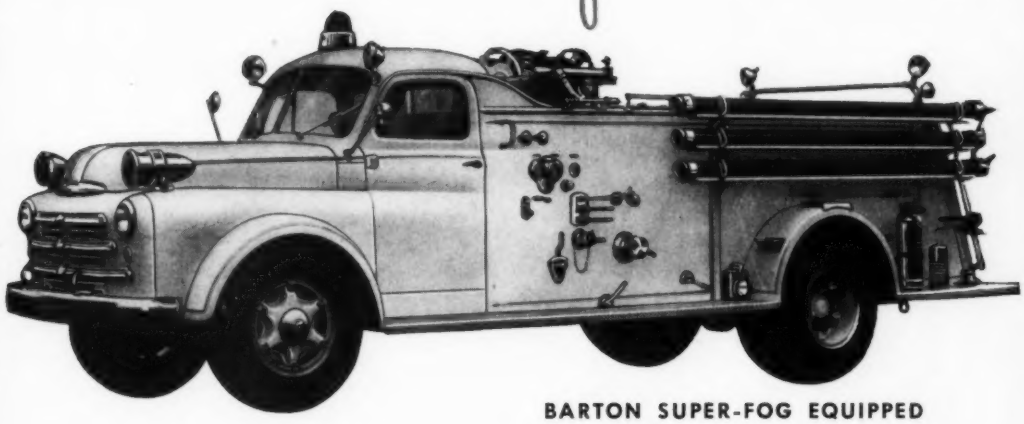
Employees at the airport are only civilians but have had some training in fire fighting. The City of Knoxville pays for all apparatus and equipment with no assistance from commercial airlines or any other agency. Hangars and other buildings are not sprinklered.

J. F. Finnegan, Chief, Richmond, Va.: Richmond City Fire Department furnishes assistance to the Airport only on call and particularly for structural fire protection.

Stationed at the Airport are: 1—135 Crash Fire Truck; 1—500-gallon Pumper with Ansul 300-lb. dry chem-

American of BATTLE CREEK

FIRE APPARATUS fire trucks



BARTON SUPER-FOG EQUIPPED

Dependable service . . . assurance of positive action . . . nothing means more to the fireman. Over 25 years of experience and research in keeping with the progress of the automotive industry and fire fighting methods has given American Fire Apparatus the answer to producing a dependable fire truck ahead of all others.

The above fire truck can be produced on any chassis of your choosing with either the Barton-American front or midship model pump, and many additional features added. As we are a division of American-Marsh Pumps, Inc., our pump manufacturer in this same city, we can give you undivided responsibility for the manufacture and mounting of the pumps, manufacturing of the body, and servicing of your truck as long as it is in operation.

We invite you to call on our established sales representative in your territory. We also invite you to see American-Marsh's pump display at the IAFC Convention at San Francisco.

*Div. American-Marsh Pumps, Inc.

CHECK THESE OUTSTANDING FEATURES . . .

- ✓ Panel Controlled Discharge Gate Valves (Including position lock feature.)
- ✓ Frost Proof Outlet Valve
- ✓ Frost Proof Drain System
- ✓ Vacuum Power Clutch and Gear Shift Control (Pump goes into immediate action by turning a switch.)
- ✓ Electric Brake Lock
- ✓ Electric Rewind Hose Reels
- ✓ Barton Super-fog Guns (Straight streams or long or short range fog.)
- ✓ Water Tank Level Indicator (Indicator showing water level can be seen from all angles.)
- ✓ Flat Booster Tank With Patented Rear Filler
- ✓ Dual Battery System
- ✓ Dual Priming System
- ✓ Front or Midship Pump (To 850# pressure — midship model.)
- ✓ High and Low Pressure Streams simultaneously — midship model.

American FIRE APPARATUS*

BATTLE CREEK, MICHIGAN

DAYTON
POWER-DRAULIC
EXPANDER
OFFSETS
the increased price of fire hose

Motor-driven with ¾ h.p. gear head motor.

EXPANDS rings on couplings from ¾-inch chemical hose to 6-inch suction with positive expansion.

TESTS hose up to 700 lbs. pressure automatically. No manual labor required whatever.

REMOVES old rings from couplings without the use of hammer and chisel in half the time—optional attachment—easy, simple operation; larger, roomier work table, fully streamlined.

Write for descriptive literature

DAYTON
FIRE EQUIPMENT CO.
1242-48 W. 2ND ST.
DAYTON 7, OHIO

ical unit and six CO_2 bottles for airplane protection; 1—750-gallon Holabird Pumper.

This equipment is provided by Airport.

Apparatus is stationed permanently at the Field.

Firefighters have all had Air Force crash fire training and were formerly members of the Air Force Crash Crew. They are civilian employees of the City of Richmond, Bureau of Airport.

Airport personnel are available for assistance if any is needed and the City of Richmond apparatus will respond to calls.

Bureau of Airport pays salaries and expenses of fire crew.

Commercial airlines pay a standard schedule landing fee but no definite obligation for provision of fire protection is contained in their agreement. Military pays an annual sum for use of the Field by a National Guard fighter squadron and fire protection is included as a portion of direct maintenance costs of the City. In addition to above equipment, the squadron has two 135 trucks which stand by only when squadron planes are flying. Their crews, however, will assist on call during normal duty hours.

Hangars and buildings on the field are not sprinklered.

We should like to raise the question often discussed, of attempting to give any sort of airplane fire protection without at least a skeleton crew of trained personnel on duty twenty-four hours a day. The probability of airplane fires on the Airport proper, due to crash landings, is rather remote. However, if and when such fires occur, unless trained people reach the scene in a matter of seconds, rescue attempts are futile in cases of large spillage of gasoline. The Airport Manager is violently opposed to operating without minimum full-time crews, yet a crew of six full-time men, three of whom are on duty each twenty-four hour shift, is expensive. The Airport Manager maintains that a volunteer crew composed of airline or other field personnel is not *instantly* available in case of an emergency, are not trained in combating large gasoline fires and are reluctant to enter burning aircraft for rescue of personnel. It is probable that we are providing more protection than comparable installation elsewhere provides.

In addition, it is felt that the maintenance of equipment and actually testing it daily is a full-time job.

G. R. McAlpine, Chief, Oklahoma City, Okla.: There are eight airports within a radius of thirteen miles of our City, three are municipally owned, four are privately owned and one is an Army Airbase.

At the present time, there are more than 225 million dollars involved in buildings and equipment at these eight airports and the fire protection with the exception of the Army Airbase is inadequate. The Army Airbase maintains fire fighting equipment both crash and structural types, manned

Fireless Firemen of National Airport

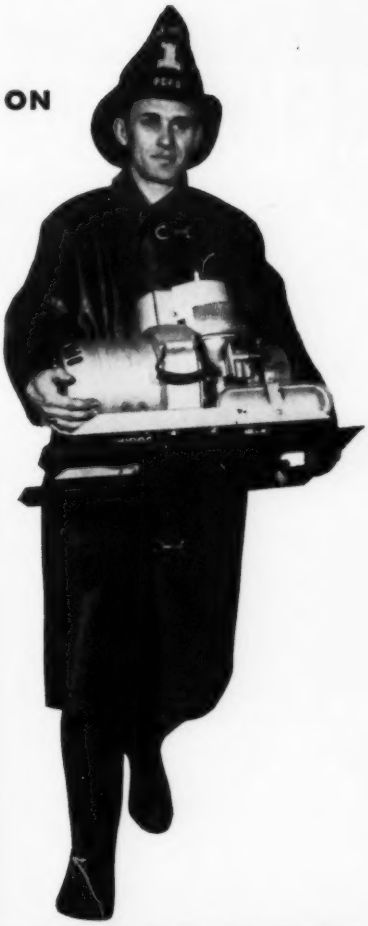
The above picture shows the "A" Platoon of the 1254th Air Transport Squadron Firemen taking training from Fire Chief Raymond Peake at the National Airport, Washington, D. C., on the operation of one of their 500 gallon pumper trucks. This training is continuous as is their constant inspection about the base, and has proven very beneficial in that this Department now claims a record in fire prevention.

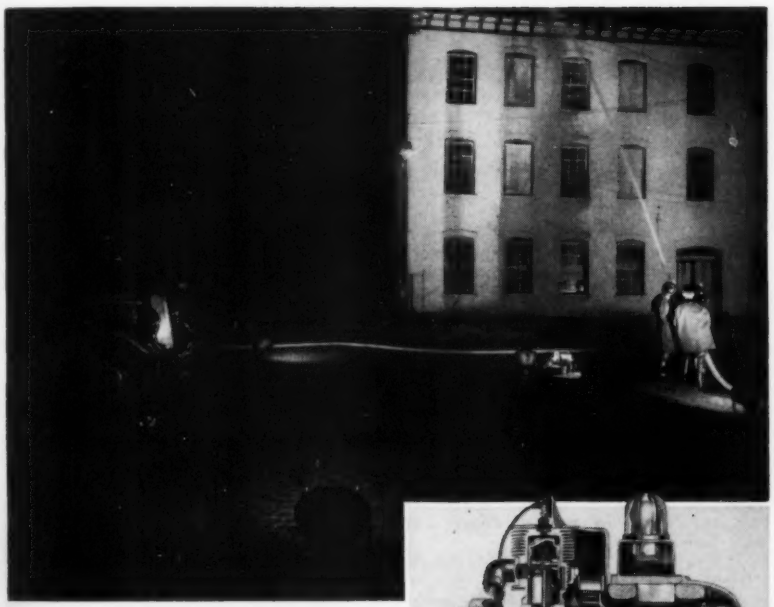
Unique in their claim, as compared to other Fire Departments which claim fire-fighting records for their ability to fight fires, the 1254th ATS firemen are backed by the fact that they have had very few fires or fire damage since their activation in January, 1943. Since that date until the present time their total fire damage is only $600.00, less than $100.00 a year average.

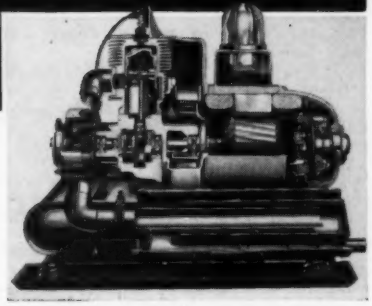
Shown in the picture from the "A" Platoon left to right are William Newsome (Hoseman), Roy Longnecker (Hoseman), Raymond Peake (Fire Chief), Jack Dant (Hoseman), Andrew Pellish (Driver), and Ashton McKenney (Driver). Left out from "A" Platoon was Charles Jones (Hoseman) who was on duty at the Fire Station Switchboard. Platoon "B" who were not in the picture, as this was their day off, are Charles Vance (Ass't Chief), Bruce Beck (Crew Chief), Gillis Phillips (Driver), Charley Poston (Driver), Lloyd Brown (Hoseman), Vincent Dant (Hoseman), Lewis Anderson (Hoseman), and Willaim Gale (Hoseman).

THREE IMPORTANT HIGHLIGHTS ON

HOMELITE CARRYABLE FLOODLIGHT







1. Performance There are no and's, if's or but's about a Homelite's performance. You simply lift your handy, carryable Homelite Gasoline-Engine-Driven Generator from your truck, set it up where you want it, plug in your floodlamps and instantly you'll have the brilliant floodlight you need for night fires. No long cables that eat up power and cause tripping hazards. No worries about starting the unit regardless of temperature. No troubles with water or dust affecting your Homelite. A Homelite is sure to perform in keeping with the most efficient fire department.

2. Dependability Precision built in every way with the finest materials, a Homelite offers dependability that is the result of more than a quarter century in developing nearly 300,000 gasoline-engine-driven units for those who *must* have unquestionable dependability in times of emergency.

3. Service In all parts of the country, there are trained Homelite men who are always ready to give instant, in-the-field service. Even though a Homelite requires less service, it has always been a part of Homelite's policy to have men available at all times to keep all Homelites in perfect condition.

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Manufacturers of Homelite Carryable Pumps • Generators Blowers • Chain Saws and Paving Breakers

WHEN SECONDS SAVE LIVES
CONSTANT CONTACT
IS VITAL!

For dependable emergency antenna performance, insist on

Master Mobile
ANTENNAS — MOUNTS

APPROVED!
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MASTER WHIP ANTENNAS

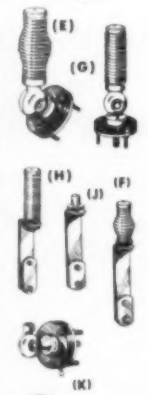
One piece stainless steel. Tapered to prevent excess swinging. Available in 72", 78", 96" lengths — or other special lengths as desired.

(A) **Series 100.** Screws directly into mount. ¾" stud fitting . . net $4.77
(B) **Series 106.** Plain end; fits model 92 ext. . net $4.11
(C) **Master Ext. Model 92** chrome plated; provides additional 18" adj. for Series 106 ant. Net $2.95
(D) **Series ABX 90** Extension for all band antenna. 24" . . . . . net $2.95

MASTER MOUNTS

Sturdy, heavily insulated shock absorbers. Both straight and double tapered spring. Body mount fits any body contour, bumper mount quickly and easily attached.

(E) **Model 132** Heavy duty swivel base body mount; double tapered. Net $7.95
Model 132X Ex. H. D., for all band ant. . . net $8.95
(F) **Model 140** Bumper mt., double tapered. Net $5.95
Model 140X Ex. H. D., for all band ant. . . net $6.95
(G) **Model 126** Durable swivel base body mount; straight spring. Net $7.95
(H) **Model 138** Bumper mt., straight spring. Net $5.95
(J) **Model 142** Insulated; without spring for direct bumper mounting. Used with Series 100 antenna or Ext. 92 . . . net $2.95
(K) **Series 130.** Swivel Base Body Mount. For mounting Series 100 antenna. Net $5.95.



SEPARATE SPRINGS for ANTENNA MOUNTS

Specially designed flexible springs absorb shocks and maintain constant electrical impedence. (L) Double tapered or (M) straight springs.
Reg. Type . . net $4.50
X-Type . . . . . net $5.95

ALL MASTER PRODUCTS FULLY GUARANTEED!

Order Today from Your Dealer — or Write:

Master Mobile
MOUNTS, INC.
5200 WILSHIRE BOULEVARD
LOS ANGELES 36, CALIFORNIA

with trained personnel on a regular twenty-four hour basis.

In all other cases, the airports are dependent on this department for fire protection, and when you consider the distance required to travel to reach the location of the fires you can see the protection is inadequate.

Oklahoma City maintains a regular trained municipal fire department in which we dispatch regular conventional type equipment to fires reported involving any of the airports.

We also dispatch equipment for stand-by crash landings. This, as you know, is better than no protection, but again, it is inadequate from the over all protection standpoint.

Now in my opinion, we are not only facing a tremendous life hazard, we have a potential property hazard too, that requires trained men, fully equipped, and placed on, or near, these airports if we expect to cope with these hazards.

Our cities in Oklahoma do not have the funds to provide such protection, and as you know to properly man only one engine it will cost approximately $30,000.00 annually. I ask this question, "Whose responsibility is it, the airlines, the private flyers, the Government, or the municipality?"

At one municipally owned airport here, there is never an hour through the night or day that one or more airliners doesn't land, discharge and take on passengers, not considering private and government agency aircrafts. How long, can any City, continue to dispatch equipment from 5 to 11 miles, without serious consequences?

Airport personnel assists the fire fighters in emergencies, but they change every eight hours, and a great many do not work on Saturday or Sunday or evenings, leaving long periods with few, if any, available to assist. This is not a dependable method.

Hangars and buildings on these fields are not sprinklered.

We are mindful of the hazard involved, but to date we have been unsuccessful in correcting the situation in our community.

There are four individual firms or groups directly interested in proper protection. They are (1) the city served by the airports; (2) the airliners using the airport for discharging and picking up passengers; (3) the private fliers and flying schools that use the airports for landing, take off and training; (4) the U. S. Government that uses the airport for landing military crafts and governmental agency crafts, and also reserves the right to use the airport during any emergency.

This being true, we are of the opinion that adequate equipment properly manned with trained rersonnel should be provided and each of the above fires or groups pay in accordance with the benefits received.

We feel the city should pay up to 12½ per cent; the airliners who use the airport, 25 per cent; the private flyers and flying schools, 12½ per cent, and the U. S. Government, 50 per cent.

These appropriations could be set up on an annual basis and proper fire protection could be furnished.

As it is now, everybody uses the facilities, and demands them, but no provision is made to furnish the protective forces that we know are necessary for safe operation.

John H. Alderson, Chief Engineer, Los Angeles, Cal.: This department provides fire protection for all airports within the City of Los Angeles, the principal one being the municipal airport which is called the International port.

At this port there is a station with the following apparatus: 1 conventional 1250 gallons per minute triple combination; 1 crash Truck equipped with CO_2, foam and water; 1 foam wagon carrying approximately 300 gallons of water with sufficient foam liquid to produce approximately 6,000 gallons of foam.

The apparatus is provided by the Fire Department and not by the Airport.

Apparatus is stationed permanently at the field. However, the triple combination will respond to fires off the field if necessary.

All personnel are trained members of this department.

Airport personnel assists in emergencies but not in fire fighting. Their responsibilities consist of clearing the field, cooperating with police, calling for necessary ambulances, etc.

Apparatus, equipment, salaries and all other expenses are paid by the City as they would be paid in any other fire station in the city.

Commercial airlines or other agencies pay no part of the cost of fire protection direct. This airport is owned and operated by the City of Los Angeles. Certain charges are made for the use of the field but these charges go to the Airport Department and in no way pay for fire protection.

All costs of fire protection are paid from the property taxes and general income of the City of Los Angeles.

Most hangars and other buildings at the airport are sprinklered.

William J. Connelly, Chief, Syracuse, N. Y.: The Syracuse Fire Department is charged with the responsibility of providing fire protection for Hancock Field, the former U. S. Army Air Base, at Mattydale, N. Y., to the immediate north of the City of Syracuse.

The Fire Department has a fire lieutenant and three firemen on duty at the airport proper, while a fire captain of this Department, is assigned to and in charge of the Fire Department established to protect the housing area, adjacent to the field.

There is available on the airport proper, the following apparatus: One 750-gallon pumper, completely equipped, one high pressure, 750-pound pressure pumper, which carries a water tank of 300 gallon capacity; One brush truck, equipped with 300-gallon booster tank, and 1½-inch and 1-inch hose.

This equipment is provided by the City of Syracuse and is permanently housed at the airport. As an added precaution, there is on file an order which sends a fire district chief, two pumpers and a hook and ladder truck, from north end stations, to the airport in cases of extreme emergency.

The firefighters on airport duty exclusively are well-trained, experienced men of this Department, and their salaries are paid by the Fire Department. Aside from the apparatus manned by these men, which is furnished by the

The First Line of FIRE PROTECTION!

Exclusive "KARBALOY" in Lifetime Stainless Steel

FYR-FYTER "INSTANT" MODEL

Amazing "loaded stream" chemical, kills larger blazes, and kills them *fast!* Fires STAY OUT when put out with Karbaloy—it virtually fireproofs wood, paper, textiles, other Class A materials.

MORE FOR YOUR MONEY...

...in the Silverlite 500 series by Fyr-Fyter, *pioneer* in Stainless steel hand portable extinguishers. Soda-Acid, Foam, other types also available in this stronger, lighter, lustrous metal.

Underwriters' Laboratories Tests show KARBALOY killed standard 10 by 10 foot panel fire in 11 seconds, standard flammable liquid fire in 2 foot diameter tub in an average 8 seconds. Approved for both Class A and Class B fires. Retards rekindling!

NOW! COMPLETE NEW ACCESSORY LINE!

Fyr-Fyter now brings to fire departments, industrial safety men and other fire protection users a complete line of Hose, Nozzles, Clamps, Masks, Wrenches, Hose Cabinets, Ladders—EVERYTHING in fire protection equipment.

Now in ONE PLACE you can obtain hand portable extinguishers with the backing of Fyr-Fyter's 34-year record of quality manufacture—PLUS fire fighting equipment and accessory parts, from a small, complete accessory replacement—a truly comprehensive service. Customer satisfaction *guaranteed!*

Fyr-Fyter Products sold only through Direct Factory-Trained Franchised Dealers. Write for the name of the established dealer in your community.

Industrial AND Fire Department Models in all types, as illustrated.

5 POUNDS LIGHTER

Use of stainless steel has produced important weight savings, making the unit easier to handle.

EXTRA STRENGTH

Stainless makes possible Underwriters' 500 lb. test label instead of minimum 350 lb. test.

DENT RESISTANCE

Fyr-Fyter stainless Steel extinguishers are more resistant to knocks and bumps than ordinary metal.

LASTING BEAUTY

The polished stainless steel finish retains its lasting luster indefinitely. No tarnishing.

SEND FOR FREE DESCRIPTIVE BOOK

Send name and business address for your FREE copy of the Fyr-Fyter catalog of equipment and accessory parts. You'll find it a valuable reference for every equipment problem.

Fyr-Fyter (FIRE) (FIGHTER) 221 CRANE STREET DAYTON, OHIO

STOP PROPERTY DAMAGE— AFTER THE FIRE IS OUT!

SPRINKLER STOPPER instantly stops further damage by water after the fire is out. Leaves the rest of the building protected in case of further outbreaks.

FOOL PROOF

- Simple to use
- Acts instantly
- No ladder to climb
- Always ready to use
- Unbreakable

APPROVED BY

NYC Bur. of Standards and Appeals #932-49-SA. Fully patented in US & Canada.

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SPRINKLER STOPPER CO.

170 So. Van Brunt St.

ENGLEWOOD, N. J.

City, the Fire Department bears the entire cost of fire protection, as it exists today.

Airport personnel are supposed to assist firefighters in extinguishing fires. The men employed at the airport are not trained for this work, and since they have fixed duties to perform, it is a question as to whether or not they would be available if needed to fight fires.

While the flying field is used by commercial lines, and other private agencies, and at present by the military, they pay no part of the cost of fire protection service. I believe that in the case of the first two it should be required of them to share in the costs of fire protection, i. e., acquiring and maintaining modern, heavy-duty apparatus, designed for this kind of fire-fighting. They should also pay part of the salary of the firefighters, and assume responsibility for at least part of the equipment used by these men.

There should be a minimum of five trained and experienced Firemen on duty at an airport, the size of Hancock, at all times.

The administration building, the terminal building and the main hangar at Hancock are sprinklered.

There was never a time when an adequate, well-trained, efficient fire department was more needed at all airports, such as we have here, than the present; and there is no good reason why all agencies benefitting therefrom should not assume their proportionate share of the costs of its development and maintenance.

Hoyt M. Ayers, Chief, Birmingham, Ala.: Air Force personnel stationed at the airport provides fire protection for the Municipal Airport of Birmingham. The Birmingham Fire Department also answers all calls to the airport along with their department.

The Air Force has two class-125 trucks, one class-155 truck and one FN3. This equipment is permanently stationed at the airport. At any time additional equipment is needed, it is furnished by the Birmingham Fire Department.

Specially trained personnel of the Air Force man this equipment under a civilian Chief. In case of emergency, airport personnel assist the fire fighters. The salaries of these fire fighters are paid exclusively by the Air Force. Neither commercial airlines nor any other municipal department shares in the cost of fire protection.

Hangars and other buildings located at the airport are sprinklered.

Henry G. Thomas, Chief, Hartford, Conn.: This Department provides fire protection for the local municipal airport. We have a fire box at the field and our response is three engine companies and one ladder truck under the command of a deputy chief.

The first company in is a two-piece company. One of these pieces is a 750 GPM pumper with a 500-gallon water tank and a 30-gallon liquid foam tank. This apparatus is equipped with a turret nozzle, 5/8-inch tip, and a dual-power plant. It carries both 2½-inch and 1½-inch hose in addition to booster line. The pump is capable of discharging 315 GPM at 300 pounds pressure. Installed on this apparatus are four 50-pound cylinders of carbon dioxide manifolded into 150-feet of high pressure hose equipped with a discharge horn. Nozzles, forcible entry tools, etc., and hand extinguishers are also part of the equipment carried.

The extinguishing agents available with this apparatus are straight stream (high pressure for blasting effect), fog, foam, dry powder and carbon dioxide.

It is manned by regular firemen, trained members of this department. It is housed in a city firehouse about

FIRE STATION No 4 FOR CITY OF TOLEDO BELLMAN GILLETT & RICHARDS — ARCHITECTS

No Sliding Poles in New No. 4 Station, Toledo

The new one-floor, two-door Fire Station No. 4, Toledo, Ohio, Fire Department, located at Monroe and Bancroft Streets, dispenses with sliding poles and hose drying tower. It has entrances on two streets, modern kitchen facilities, roomy lounge and a district chief's office. It completes another step in the modernization program inaugurated by Fire Chief Patrick Daly.

4/10 of a mile from the airport.

Located at the field is an emergency truck with a 150-gallon water tank and twin foam tanks, manned by field personnel.

Except for hand and portable extinguishers which are supplied by commercial companies for stand-by use, they do not contribute to the maintenance of fire protection.

There are no other departments, or agencies, that share in the cost.

P. A. Davis, Acting Chief Engineer, Washington, D. C.: The Washington Fire Department provides fire protection for the airports only when they are called to assist the airport and suburban area companies. When requested we dispatch engine companies, rescue squads and foam equipment.

The airports have their own fire fighting equipment on duty around the clock. This is stationed at the field. The personnel is recruited and trained by the airports.

Hangars and buildings are sprinklered at the larger installations, i. e., Washington National Airport, Bolling Field, Naval Air Station, Andrews Field.

At the small privately owned air fields which are all located outside the District of Columbia, no sprinklers are provided.

There are two airports within the city limits of Washington, the U. S. Naval Air Station and Bolling Field. Both are military installations and maintain excellent fire companies. They handle many minor blazes which occur and about which we are not notified.

These airports are provided with city fire alarm boxes and on occasions when outside assistance is required, their local department pulls the hook and receives our regular first alarm assignment of engine companies, truck companies, rescue squad, fireboat and chief.

Our chief takes command, and, if additional help is required, he sounds additional alarms.

John C. Klinck, Chief, Memphis, Tenn.: Our department supplies fire protection for the municipal airport. We work in conjunction with the Ferry Command stationed there.

Apparatus consists of a foam truck, carbon dioxide truck, service ladder trucks and pumpers. The airport has a carbon dioxide truck and a pumper which are stationed permanently at the field. We supply the rest.

The personnel are trained firemen. Airport personnel have been taught emergency operations.

The Ferry Command is in charge of apparatus and also firemen stationed at the airport. They pay all salaries.

Commercial airlines do not pay for fire protection.

Hangers are not sprinklered, but some of the other buildings, such as shops, engine rooms and some administrative buildings are.

William H. Davis, Chief, Pittsburgh, Pa.: Airports are located five and fifteen miles beyond city limits. City of Pittsburgh does not provide fire protection, but would respond if summoned.

Apparatus maintained by the County at the airport consists of an American LaFrance pumper with a 300-gallon

It's the New

Dodge Power Wagon Fire Truck equipped with three New Hannay Hose Reels

HANNAY HOSE REEL

WATER-RESISTANT
VAPOR-RESISTANT
EXPLOSION-PROOF

New models for fire trucks and airport crash trucks are especially designed with extra strong construction to withstand high pressures and the motor is protected against fog, foam, water and fumes. Developed to overcome the danger factors previously associated with electrical rewinds, the Hannay Reel has been PROVEN SAFE and efficient in exacting factory and field service tests. Explosion-proof, heavy duty motor with permanently lubricated bearings is Underwriters Approved Class 1, Group D, and is an integral part of the reel; needs no attention.

- ★ Can be connected through conduit, for sealed, safe installation.
- ★ Sealed push button control; "push" to start; "release" to stop.
- ★ Quiet, positive sprocket and chain drive; no gears to shift; no clutch to engage.
- ★ Safe rewind speed, always under control.
- ★ Smartly designed, compact, durable, dependable.
- ★ Simplicity of construction and operation reduces maintenance costs to a minimum.

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fresh water booster tank, two 100-gallon foam tanks; four large carbon dioxide cylinders and 400 feet of 2½-inch hose.

Personnel consists of two trained men from the County of Allegheny and two trained men from each of three airlines using airport.

Allegheny County pays for apparatus and equipment and both the County and airlines pay salaries of fire fighters.

The above information has been furnished by E. G. Messner, Chief Engineer, Department of Aviation, County of Allegheny, Pittsburgh, Pa.

John A. Slattery, Chief, Rochester, N. Y.: The Rochester Fire Department does provide fire protection for the municipal airport. We supply both high and low pressure pumpers. These are not maintained at the airport.

The municipal airport was recently taken over by the County of Monroe, which now operates it. There is a plan to purchase apparatus and equipment and steps have been taken to set up specifications for them. The airport is at present being greatly enlarged and the whole protection setup will probably be greatly augmented when the job is completed. It is located much closer to the city than are most major airports, being but a few short blocks out and less than two miles from the nearest city fire station. When plans are complete, fire fighting facilities and personnel will probably compare favorably with any in the nation.

Edward E. Wischer, Chief, Milwaukee, Wis.: At present the Milwaukee Fire Department provides fire protection at the Milwaukee downtown Maitland Airfield and dispatches regular apparatus if called.

The Milwaukee County Airport located outside of the city limits has its own fire protection equipment, following suggested recommendations by me to the Milwaukee County Board of Supervisors.

Apparatus at the Milwaukee County airport consists of the following: one large airplane crash fire fighting truck equipped with a 400-gallon water tank, one 30-gallon foam tank, four 50-pound cylinders of carbon dioxide, four 50-pound cylinders in reserve, two 15-pound carbon dioxide extinguishers; two 2½-gallon foam extinguishers; one small crash truck equipped with a 300-gallon water tank, one 20-gallon tank of liquid foam, two 15-pound carbon dioxide extinguishers, one 2½-gallon foam extinguisher and one 1-gallon carbon tetrachloride extinguisher; foam applicators, cutting equipment, asbestos suits, rubber gloves, floodlights, etc.; one 500 GPM combination pumper carrying 1,600 feet of 2½-inch hose. These are provided by Milwaukee County.

The present force consists of eight men appointed by Milwaukee County, following competitive examinations for the position. These members then received a total of 150 hours of training and instruction from the Bureau of Instruction and Training of the Milwaukee Fire Department. This force has been augmented by 30 men selected from airport personnel and also have been trained by the Milwaukee Fire Department.

Airport personnel do not generally assist the fire fighters, but are available in case of emergency in the vicinity of the airport.

All cost in maintaining this force and equipment is paid for by the county.

Hangars and buildings are not sprinklered.

John C. Cost, Chief, Philadelphia, Pa.: We have a detail stationed at the Philadelphia International Airport. It consists of three shifts of eight hours each. At the N. E. Airport protection is furnished by companies responding to an alarm.

A crash truck fully equipped and a Ford pumper combination constitute the apparatus.

This apparatus is provided by the Bureau of Aeronautics, Department of Public Works, of this city, and is stationed permanently at the field.

Four members of the guards assigned to the airport are prepared to help the fire department, if called upon.

Apparatus and equipment are paid for by the Bureau of Aeronautics; certain equipment is paid for by the Bureau of Fire. Salaries are paid by the City.

Hangars and buildings are not sprinklered. This is in the planning stage.

James J. Sweeney, Jr., Fire Marshal, Oakland, Cal.: The Oakland Fire Department provides a first alarm assignment in case of fire at the local airport. It consists of two pumpers, one truck company and chief. The equipment includes fog nozzles and small foam and carbon dioxide extinguishers.

The Airport also has one pump with fog and foam equipment. This unit is stationed at the field and manned by airport personnel.

Commercial airlines do not share in the cost of fire protection. The Port Commission which has jurisdiction over the airport bears the cost of the unit stationed at the field.

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OBERDORFER

Booster Pumps

The word's gotten around that we are soon introducing new and greatly improved models of the famous Oberdorfer Booster Pumps . . . and orders already received show that demand will exceed supply for some time. So . . . we have decided to allocate our entire initial production to present users of Oberdorfer Pumps . . . and we need your help to complete our records. If you will fill in and mail the coupon below, we will place you on our priority list for early delivery of the new model pumps. *This is not an order,* and does not obligate you to buy, but merely insures you of priority delivery when the new models are announced *if or when you place an order.*

Fire Pump Division OBERDORFER FOUNDRIES, INC. Syracuse, N. Y.

We are now using ..... Oberdorfer Booster Pumps, Model Nos. .....
quantity

Date of purchase (if known) .....

Type of service .....

.....

☐ Place our name on your priority list for new model Oberdorfer Booster Pumps (no obligation to purchase).

☐ Send us literature on the new pumps when ready.

Name ..... Dept. .....

Address .....

Simultaneous Fires

(*Continued from page 622*)

tled back and forth, calls for assistance went out.

At 3:37 A.M. the same morning, Box 664 sounded for still another fire, the McDowell Feed Warehouse at 1530 Eckington Place, NE. The building fortunately was empty at the time, but it was necessary to strike second and third alarms for forces to hold this blaze.

The final multiple-alarmer came at 5:11 A.M., from Box 89, where firemen rolling in on second, third and fourth alarms faced a hot fire in a planing mill in the rear of 1319 W street, NW.

This climaxed what many District firemen record as the wildest night in their experience. The total monetary loss for these five fires was not great, reportedly under $100,000 but measured by today's values, however, it would be many times that amount.

By means of witnesses who saw him pull a fire alarm box, and who noted his car license number, police apprehended a man giving his name as John T. Fisher, and charged him with having set all five of these fires. It developed he was a psychopathic patient of the Walter Reed Hospital. When arrested he had a fire badge of Fallsburgh, N. Y., but police of that place knew of no one by that name. Fisher confessed to the police that he started two of the series of fires in the grain warehouse and woodworking plant. However, firemen believed that he set most, if not all, of the blazes. He was taken into court and ultimately confined to St. Elizabeth's Insane Asylum.

Other Disasters Breed Simultaneous Fires

Fire is often a concomitant of other disasters, such as hurricane, flood and earthquake. Everyone knows of the simultaneous fires, starting as a result of the San Francisco earthquake, which merged to destroy most of the business part of the great city. Cincinnati, O., faced serious multiple fire threats during its worst flood in January, 1937. And several cities had to fight potentially dangerous fires during the catastrophic New England Hurricane of September, 1938.

It is doubtful if any municipal fire department was faced with a more hopeless fight than was that of New London, Conn., during the height of the great hurricane. Called on about 4:30 P.M. to battle a blaze in a wholesale grocery at the waterfront, with wind at times reaching 100 miles an hour and with both fire alarm and telephone communications out; streets so blocked by trees and debris that response of fire apparatus was almost impossible (one company never got out of its station, which was blocked by fallen timber); some areas flooded by the unusually high tide; light and power cut off; an uncertain and fluctuating water supply and the local radio station out of service, it is remarkable that the entire city was not destroyed by the conflagration which burned or damaged more than 50 buildings.

All through the night New London firemen, under Chief Thos. H. Shipman and his New London fire fighters, struggled to confine the not one but several spot fires whipped by the wind. Men and apparatus were shifted about as best they could to meet succeeding

a CLAIM becomes a FACT

only when it has been PROVED in use

Consistent satisfaction in use is the acid test of any product's true worth . . . a test that Bar-Way Hose Couplings have passed with a 100% mark. "Never a failure" was first a strong claim, and now *a vital fact.* No other coupling provides this guarantee of public protection, in addition to the other advantages of Bar-Ways which add to user convenience, efficiency, safety and economy.

STREAMLINED:	No objectionable projections to catch or to injure operator.
FULL FLOW:	Full internal flow and full pressure are assured.
REMOUNTABLE:	Precision machined . . . interchangeable. No wires, screw clamps or other parts that break when attaching. Can be removed and re-attached any number of times, using only three simple and inexpensive tools.
HIGH PRESSURES:	Bar-Way couplings will always more than stand the bursting pressure of the hose without danger of leakage. *They will not fail!*

IN ¾" AND 1" SIZES FOR BOOSTER, FOG AND CHEMICAL LINES

Here is what some important users write . . .

"In due time we will have all of our booster lines equipped with these couplings. We cannot speak too highly of this type of a small coupling."

"We standardized on Bar-Way couplings on all trucks and since that time we have had no trouble. We highly recommend to all fire departments throughout the country the use of Bar-Way couplings for trouble-free, long-lived service."

"Customers prefer this type of coupling because of its simplicity in attaching and also eliminates possibility of blowing off under pressure."

"Thousands of feet of hose have been equipped with these couplings and at this date we have yet to hear of one case of trouble."

"We can proudly state that Bar-Ways have held fast as you stated they would."

GET THE FACTS TODAY

BAR-WAY MFG. CO.
Stamford, Conn.

Please send me, at no obligation, your literature and other informative data on Bar-Way Hose Couplings.

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

fire threats, in many cases having to literally cut their way through fallen trees and vegetation. One fire was extinguished by a bucket brigade organized by the city electrician, who was the only number of the department who could respond to the alarm.

Although fire alarm communications were out, efforts were made to reach fire forces in the neighborhood. Runners were sent on foot through the storm to call nearby departments. Most of the communities could not be reached by wire. Calls for help, which went to New Haven and Hartford by telephone, could not be answered due to the condition of the road and the fact that practically every city fire department was itself fully occupied with its own emergency work.

A few volunteer fire departments did fight their way through the storm and gave valuable assistance. The first to arrive (at 5:30 P.M.) were pumpers from the Jordan and Oswegatchie companies from the town of Waterford. About an hour later a pumper arrived from Groton, Conn. These went right to work.

Just as the main conflagration was being brought under control, at 11:15 P.M. a call was received for a fire in a three-story apartment building in the Green Harbor Beach section, about a mile distant. A Coast Guard pumper, which had by that time been located in fire headquarters, was sent with a hose company to this scene. Fire fighters and apparatus had great difficulty in getting to the building. They had to carry their hose and equipment by hand the last part of the distance. The Coast Guard Academy pumper was driven to the river from Green Harbor Beach and managed to supply three lines of hose. One was used on the fire and two on exposures. But the fire could not be held. A call was sent for Engine 1, which left the main Banks street blaze. These forces held the losses to the apartment building, an adjoining dwelling and shed. This fire had its headway because it was necessary to drive to fire headquarters to sound the alarm.

Soon after midnight, apparatus from the Goshen Fire Department arrived at fire headquarters, after chopping through 32 trees that had fallen across highways and taking over 10 hours to go three and one-half miles!

This conflagration, and simultaneous fires, occurring at a time when a great hurricane disaster prevented outside help from quickly responding to aid, proves that while mutual aid is highly desirable, outside assistance cannot be relied upon to furnish primary fire defense. Each city should have sufficient fire facilities including men and apparatus of its own to meet the threat of local conflagration unaided.

Conclusions

Fire is unpredictable. A fire department may go for long periods without a serious fire. Then, again, they may encounter a plague of alarms some for simultaneous fires, that would tax the resources of even the largest departments. But large or small, no fire force is safe from the threat of concurring fires.

Improved apparatus and equipment, such as automotive pumpers, tanker pumpers and elements recounted by FIRE ENGINEERING in the series of articles on the strategy of coordinated attack, together with high pressure and sprinkler systems, automatic fire detection and reporting systems and improved fire communications systems, are proving valuable assets in aiding fire forces to meet the threat of simultaneous fires. However, few fire departments today are in themselves strong enough in manpower and equipment to combat more than a single serious multiple-alarm fire.

Even where there are reserves of men and equipment, it takes time to mobilize off-duty personnel and place reserve apparatus in service. In not a few cases, the reserve equipment is actually a weak prop; the vehicles are obsolete; many are cast-offs and in numerous cases they cannot be counted upon to perform serviceably.

Study shows that a large number of fire departments have made no serious analysis of the possibilities of simultaneous fires, or other emergencies, in their communities and not very many have set up any comprehensive plan for meeting such a situation if it should eventuate.

Many communities believe that some form of mutual aid arrangement with neighboring communities is all that is needed to cope with the simultaneous fire emergency. But, while mutual aid is one answer, and one asset, it is not the sole answer, nor should it be the sole reliance of any fire department. Mutual aid can never take the place of ample local fire protection facilities. A

YOUR KEY TO INSTANT STARTING!

Instant starts — with full power and a warmed-up engine at the pressing of the starter button are no longer only a fireman's dream. With KIM Hotstart it is an actual accomplishment in fire departments all over the country.

How KIM Hotstart Works

When the truck pulls into the station, the Hotstart is plugged into the electric circuit. This produces a controlled percolator action which draws off cold water from the engine, heats it and forces it back into the engine at another point. Engine remains warm and ready for instant action.

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A Size for Every Engine

KIM Hotstart is made in four sizes, for both gas and diesel engines. One of these models may quickly be installed on your fire truck by any competent mechanic. To learn more about the Hotstart and how it will work on your vehicles, fill in and mail the coupon for illustrated literature and name of your nearest dealer.

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KIM HOTSTART MANUFACTURING CO.
West 917 Broadway, Spokane 11, Wash.

Please send literature, prices and name of local dealer.

Name_____

Address_____

City_____

Zone_____ State_____

major disaster may involve a wide area, as in New England, preventing any sort of effective cooperative action. Besides this, no community should be entirely dependent upon its neighbors.

While it behooves fire forces of an area to pool their assets and to be prepared for simultaneous fire fighting, or to meet multiple-threat conflagrations or other disasters, it is a wise course to maintain all possible reserves ready for immediate operation. Many chiefs no longer junk old apparatus and equipment, but make every effort to put it into operating condition, and maintain it so.

In some cities, notably New York, the "double companies" established years ago to meet the threat of simultaneous fires in an area have been disbanded. Although these units did see some service, they came to be considered more a liability than an asset, and with improved automotive apparatus and a realignment of reserves, they were ultimately discontinued.

A number of cities found that the shortage of manpower constituted a serious handicap in meeting the challenge of simultaneous or overlapping fires. Some of these have installed squad units designed to hasten response of reinforcements where they are needed.

By judicious use of modern two-way radio communications, it is now possible to speed the shifting of men and apparatus from one fire front to another. In fact, no single element offers greater help to a fire department faced with a number of overlapping fires, than two-way radio. Properly powered, it is independent of the weather and it affords an entirely new approach to fire attack and defense, rightly applied.

Another method employed by some municipal fire departments is to indicate certain fire companies that must always be "covered." In other words, those in high value or special hazard districts, where protection must not be relinquished for long, are indicated in the department's rules and regulations and dispatchers and fire officers know that whether by placing of reserve equipment in service in these stations, or the transfer to such houses of outlying companies or of incoming units on mutual aid calls, these critical companies must be retained "in service." Although this is not the final answer to meeting the simultaneous fire problem, such a procedure may insure a sufficient coverage and response to prevent the simultaneous fire in a high hazard district from reaching dangerous proportions.

Of some 91 fire companies in the Borough of Manhattan, 48 are said to be so designated.

There are other factors which bear upon the simultaneous fire problem. One has to do with the response to fire alarms by volunteer companies in communities having more than two or three companies. In many such communities it is the custom, born of the old rivalry between volunteer groups, to respond to a "full alarm" with all units. If the forces have mobile radio tie-in with headquarters, this isn't so risky an undertaking because unless the fire is serious and requires "all hands," one or more company units can easily be re-dispatched from the first fire to answer the simultaneous alarm. But where there are no such quick means of communications, experience has shown

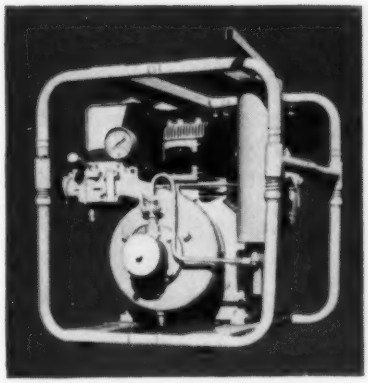
Be Prepared to Fight Forest Fires Now with a HALE Type FZZ Portable Pumping Unit!

Below are two on-the-spot pictures showing a Hale Type FZZ Portable Pumping Unit fighting a brush fire from a moving truck. The unit can be mounted or carried on virtually any type of equipment, making it extremely valuable for fighting brush, field and forest fires while in motion. Booster tank is used for source of water.

The Hale Type FZZ is a powerful rugged, ready-to-use unit built specifically for fire fighting. Compact, dependable and efficient, it will stand long hours of continuous pumping. The unit will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure, and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" hose lines using nozzle tips up to ¾".

Simplicity in design and reliability are exemplified in the Hale single stage centrifugal pump, bolted direct to a sturdy four-cycle 8.25 HP, single cylinder, air-cooled engine.

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. It can be easily carried to source of water which truck cannot reach, for refilling booster tank or for fighting fire direct.



Unit is also available mounted on two wheels or on rubber-cushioned steel channels.

● **Write today for new FZZ Folder.**
Let us know if you want a demonstration.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.
Fire Pumps in All Standard Capacities

that it is folly to respond to all alarms within a community with its entire fire strength. It is better to hold one or more company units in quarters, ready to meet another emergency, even if to do so may gall the volunteers. In addition to affording better protection, this course saves wear and tear on men and equipment; reduces accidents and through building better fire protection creates more favorable public good will.

It has been asked by some chief officers, how can we prepare and train for these possible simultaneous fires? It is not so easy in the larger municipalities where departments are busier and there normally are sufficient facilities available to meet such situations. Officers, however, may be called upon in their training programs, and examinations to meet hypothetical situations involving overlapping and concurrent fires. These "possible" fires may be fought out on paper. Sample situations may be worked up by using Sanborn maps, and underwriters' reports.

In the smaller communities it is possible to conduct actual drills to develop the theory and practice of fighting such fires. Nearly all communities conduct departmental drills at which the fire companies go through the operations of attacking a supposed fire in a certain occupancy. It is possible to stage a "simultaneous fire" during the progress of the departmental drill to see how men and officers conduct themselves, and how mutual aid functions in such an emergency. Naturally, such drills should not become a habit. Every department, also, can discuss the strategy of simultaneous fire attack, and defense. It is not always possible to set down rules of procedure for meeting such emergencies, but it is possible to anticipate them, and there is no excuse for not making such preparations to meet them as are within the limitations of the community and its fire service.

Rescue Equipment

(*Continued from page 627*)

may be due to the fact that such apparatus developed out of other types of commercial and pleasure vehicles. In other words, there was no style, or pattern of rescue trucks or cars. Prior to the all-enclosed type motor vehicle, the units were of the open, police patron type with men and much of the equipment prey to the weather.

Following introduction of the enclosed type apparatus, the compartmentized rescue truck made its appearance and has since become widely popular. The smaller, lighter units vary all the way from jeeps and station wagons to panel and bakery and similar trucks. Of late years there has been an increase in the number of disaster emergency trucks, many of which are converted motor buses or are built to resemble them. The first of these outstanding units was the J. Stevens Disaster Unit, named after Battalion Chief Jay Stevens of the Portland, Ore., Fire Department, now Executive Secretary of the International Association of Fire Chiefs. This unit, manned and housed the Portland Fire Department, answers emergency calls from a wide area in Multnomah County, and beyond.

A factor of concern to many chiefs is the problem of replacing the high per cent of obsolete and outmoded rescue and emergency vehicles. Many have found present trucks totally inadequate to carry the advanced rescue and other equipment required by the modern squad. Now that many plan to replace such vehicles with modern, streamlined, compartmentized apparatus, they are faced with the possibilities of wartime restrictions, priorities, delayed deliveries and rising costs. Forethoughful officials placed orders for modern rigs some time ago and, as the illustrations throughout this account attest, some truly original and outstanding rescue and emergency vehicles are being delivered to the fire forces.

To those who have not replaced their old outmoded units, the majority of fire officers interviewed have but one message: *"do it now!"*

No End to Rescue and First Aid Equipment

The array of rescue, first aid and other emergency equipment carried by these units beggars belief. The following are taken from the lists included in the reports of chiefs interviewed for this study. The list is incomplete—but should prove instructive:

FIRST AID EQUIPMENT CARRIED

Inhalator (and fittings)
  (Also inhalator hose and face piece)
Resuscitator (and fittings)
All service masks
  Also extra all service canisters and face pieces
Breathing apparatus
  Self-contained masks
  Demand type masks
  Also extra containers of air, oxygen
  Smoke masks (and hose)
Cardoxide
Fresh air pump

MORE AND MORE NEWSPAPER HEADLINES ARE TELLING THE STORY OF NEW FIRE FIGHTING EFFICIENCY WITH SHARPSVILLE MULTI-PURPOSE FIRE TRUCKS

● "Two fires of a potentially serious nature caused upwards of $1000 damage within a few hours in downtown Sharon (Pa.) yesterday," declares a recent newspaper account. "Department officials pointed out the fires were serious because of danger to nearby buildings," the report continues.

First on the scene and only equipment necessary to use — in these cases as in a steadily growing number in other communities, large and small — has been the Sharpsville Multi-Purpose Fire Truck. These small, low-cost units are proving the answer to a fireman's dream. Carrying their own water supply and high pressure fire-fog system, they get there first, go into action immediately, and finish the job alone in most instances, with minimum damage to property from either fire or water. Check the features of the Sharpsville Multi-Purpose and see if you don't agree it's just what you need.

SHARPSVILLE MULTI-PURPOSE FIRE TRUCK ADVANTAGES

1 Low initial cost, low-cost operation.

2 Small, compact, yet plenty of space for portable generator, searchlights, air packs, resuscitator, other accessories.

3 Built on chassis of your choice.

4 Choice of front-mount or mid-ship mount centrifugal pump or piston pump.

5 Range of water tank capacity to meet requirements.

Write or phone SHARPSVILLE for complete details

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Established 1860 Incorporated 1907
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ALSO BUILDERS OF STORAGE TANKS AND PRESSURE VESSELS

Gas detector (explosion meter)
Safety lamp
First aid kits
  Red Cross
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Department physician's kit, with
  Mouth pry
  Tongue forceps
  Stethoscope
  Electric aspirator
  Rubber (surgical) gloves
  Spreaders
  Enema attachment
  Vaseline
Scissors (Bandage)
Rolls adhesive tape
Blood plasma
Foille spray kit
Hot water bottle
Cotton
Petroleum burn kit
Therapy unit
Thermos bottles
Splinter forceps
Shoe spoon
Rubber tourniquet
Eye cup
Eye brush
Infant syringe
Small pushlight
Hemostate
Umbilical cord scissors
Natal speculum
Jaw forceps
Tweezers
Thermometers
  Oral
  Rectal
Diagonal cutting pliers
Life slings (and belt)
Body bag
Wire basket stretcher
Litters
Traction splints
  Arm, leg, etc.
  Splint pads
Fracture board
Ambulance cot
Folding back stretcher
  Small stretcher
Triangular bandages (misc.)
Rubber sheet
Sterile draw sheets
Bed sheets
Towels (Turkish, hand)
Blankets (Army, woolen, horse)
Heating pads (electric and chemical)
  Heat blocks and charges
Surgical aprons
  Smocks
Wading trousers
  Bathing suits
Life vests (life preservers)
Salt tablet dispenser

SALVAGE EQUIPMENT CARRIED

Brooms (brush and steel)
Canvas runners
Door wedges
Mop
Mop bucket
Nails and tools
Sawdust
Roofing paper
  Tacks, nails
  Hammer
Sponge
Sprinkler tongs (plugs)
Shovels
Squeegees
Siphon
Tarpaulins
  Tarp' hooks
  Salvage cover ties
Water scoop

FORCIBLE ENTRY EQUIPMENT CARRIED

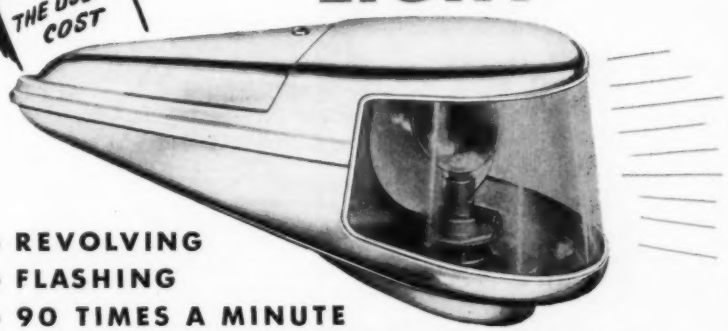
Kelly tool
Acetylene cutting torch
  Cutting torch goggles
Door opener
Claw tool (ripping bar)
Crow bar (pinch bar)
Wire cutters
Axes
  Fat head
  Pickhead
Pick hammer
Battering ram
Sledge hammers (6-14 lb.)
Life belt pick axes (hatchets)
Claw hammer
  Ball and peen hammer
Saws (misc.)
Picks (spare handles)
Shovels
  Sand shovel
  Trench shovel
Bar cutter
Screw drivers (misc.)
Manhole lid lifter
  Manhold lid wrench
Files (misc.)
Hayhooks
Electric hammer
Electric saw

Super Powerful

2 TO 3 TIMES ANY COMPETING PRODUCT

RED WARNING LIGHT

1/2 THE USUAL COST

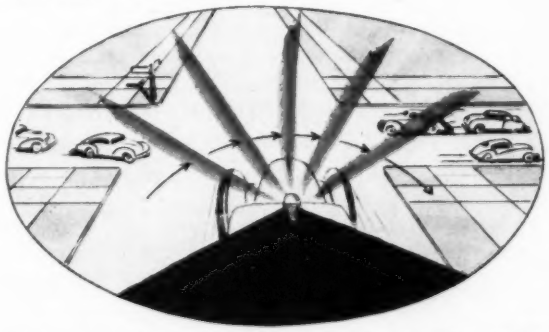


- REVOLVING
- FLASHING
- 90 TIMES A MINUTE
- STOPS TRAFFIC • HALTS PEDESTRIANS

THEY SEE IT BLOCKS AWAY — 3000 FT.

by day, a mile or more at night. Its 100 to 150 candle power source (not 32, not 50) warns traffic even in the worst weather.

FROM EVERY ANGLE THAT COUNTS—front, sides, ⅛ to the rear on both sides, full 240°—but masked behind so observers, seeing red, know *which way it's rushing.*



CLEARS THE WAY FOR SPEED

Commanding instant attention with its unmistakable, rapid pulsations of brilliant red, effective in any weather, this TRIPPE Revolving RED WARNING LIGHT clears the road ahead, lets you travel faster—with more safety for men, equipment and public.

MOISTURE PROOF • SHATTER PROOF • GUARANTEED

Moving parts enclosed in triple plated chrome case; insulated against freezing. Easily installed on roof or fender of truck, ambulance or chief's car. Available in 6 volt 100 c.p. or 12 volt 150 c.p. LOW PRICED. *Investigate!*

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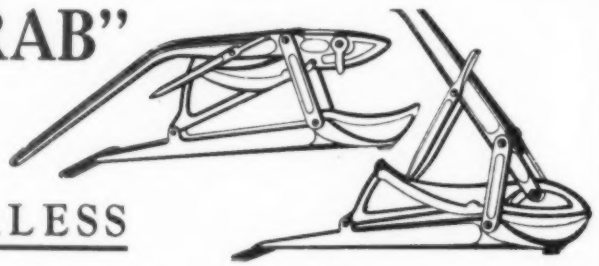
609 W. LAKE ST., CHICAGO 6, ILL.

Electric drill
Jacks (hydraulic and other)
  Car mover jack
Bolt cutter
  Wire cutters
Block and fall
  Snatch block
Wrenches (misc.)
Pliers
Punches
  Punch holder
Keys
  Skeleton, etc.
Jack hammers (paving breakers)
Power rams
Power cutting tools
Jacobs ladder
Manila rope (all sizes)
Tin snips
Auger (and handle)
Throwing ball (lead)
Screw drivers (misc.)
Chisels (misc.)

MISCELLANEOUS EQUIPMENT CARRIED

Body bag
  Body wrapper
Boats
  Boat trailer
Grappling irons
Oxygen cylinder dollie
Portable light and power plant
  Flood and spot lights, extra cable
Emergency lights (portable)
Flash lights
Flares
Life net
Chains
  Tire
  Pull
Cable (wire)
Life gun (and cord)
Life belt
Gas stop keys
Kit for refrigeration leaks:
  Large monkey wrench
  Small monkey wrench
  1—10" trimo wrench
  1—6" Stillson wrench
  1 pincer
  1 ball and peen hammer
  1 pair cutting pliers
  1 pair sheep nose pliers
  1 small screw driver
  1 large screw driver
  1—4" adjustable wrench
  2 ratchet wrenches
  3 socket wrenches
  1—5/16" open end wrench
  1—¼" open end wrench
  1 Gas stop nut wrench
Public address system
Row boat, oars and rope
Diving equipment.
Deluge set (portable)
Vaporproof light and cord
Fuel oil can and oil
Fire extinguishers
  Soda and acid
  Dry chemical
  CO_2
  Carbon tetrachloride
  Foam
  Water (pack pump)
Grease gun
Chocks and blocks
Pull down hook and chain
Smoke ejector (air mover)
Asbestos suits
Asbestos blanket
Rubber protection
  Gloves
  Suits
  Hoods
Leather glove protectors
Leather container for—
  Fire alarm book, accident reports, telephone box key, writing material, etc.
Turnout coats and boots
Helmets and skull caps
Hose fittings (misc.)
  Nozzles
    Fog, control, all-purpose, etc.
Adapters
  Hose straps
  Hose clamp
  Spanner wrenches
  Double male and female
  Reducers and increasers
  Gates and wyes and siamese
Ladders
  Extension
  Straight
  Folding
Pike poles (plaster hooks)

"GRAB" A PEERLESS



HOSE CLAMP

To

CHANGE HOSE LAYOUTS
SHUT DOWN A LINE
SAVE MEN — SAVE TIME

If you use the "Peerless," enough said — but if you haven't, better phone your supply dealer — NOW. The PEERLESS was put on the market at the time of the "HORSELESS CARRIAGE" and like the auto improved and perfected.

Now in use in all sections of this country and from Alaska to Argentina, Honolulu to India.

The reason — That's no $64 question —
"IT'S GOT WHAT IT TAKES"

Specify— "PEERLESS" on all new apparatus
All Manufacturers Install It

There is only one "PEERLESS" "A substitute is cheap — So's the GUY that sells it — But it cost the man PLENTY that buys it.

KELLAM MANUFACTURING CO.
P.O. BOX 729, ATLANTA, GA.

World Wide Fire News

By Roi B. Woolley

Five Die in British Train Fire

Five passengers of a crack Birmingham-Glasgow express train were burned to death on the night of June 8, 1950, in a train fire as the train rolled through a bleak moor 42 miles southeast of Glasgow.

Railway officials said the five dead, a man, two women and two children, apparently were members of the same family. They were traveling in the same compartment in the second of three first coaches of the train which were involved by the fire.

An unusual slant on the case was indicated when it became known that $40,000 worth of jewelry was missing from a locked luggage coach that had not been affected by the fire.

Scotland Yard officials questioned crew members and survivors in an effort to discover whether the jewelry had been lost accidentally or whether jewel thieves might have set fire to the train to cover a robbery carried out in the resulting confusion.

In addition to the dead, many persons were reported injured in the fire, which apparently involved all three front cars of the train almost simultaneously.

* * *

Gas Bombing Scare in Seven Mid-West Towns

Some residents of seven towns in Illinois and Iowa suffered near-panic and many others were frightened on July 8 last by a foul smell which permeated their communities, raising fears of a Russian gas bombing.

The noxious odor crept through Moline, East Moline, Silvis and Rock Island, Ill., and then spread across the border into Muscatine, Bettendorf and Davenport, Iowa. Some residents called

police. One man insisted to Silvis Police that "the Russians are flying over us and gassing us." Police, fire and newspaper offices throughout the area were flooded with inquiries as the smell persisted.

The trouble was finally traced to a leak in a tank of pent-alarm, being hauled through the area on a truck headed west. The truck carting the odorant, which is used to inject a smell into natural gas normally odorless to permit detection of gas leaks, passed through Moline shortly before midnight, when the excitement began. Soon after its passage the evil-smelling fumes routed citizens from their beds and from taverns, almost forcing the closing of two farm-machinery factories and caused the alerting of fire and police forces on a near-emergency basis.

Officials of the Iowa-Illinois Gas & Electric Company said the odor probably emanated from a leak in the tank of the substance as it was being transported. They said the odor is not injurious but can cause nausea.

* * *

Sabotage Suspected in British Port Blast

The Portsmouth British Naval Base was rocked and a harbor fire started when nine ammunition barges and part of a munitions train blew up on July 14.

Thirty persons were reported injured in the blasts, which showered live shells over a quarter-mile area and broke windows two miles away. The ensuing fire was extinguished with the help of fire fighting equipment from communities in the area. An investigation into the cause of the explosions and fire was instituted at once, the possibilities of sabotage not being discounted.

The barge on which the first explosion occurred was moored with others near the Royal Navy ammunition depot at Bedenham, on the outskirts of Gosport, about 60 miles from London. The fire spread quickly to other barges, admiralty officials reported, and a chain of explosions followed. Firemen had to dodge iron girders and other flying debris.

A 40-car munitions train was lined up at the jetty when the first blast occurred. Three cars were shattered. Officials refused to state whether or not British warships being loaded at the port were involved.

* * *

Many Dead in British Ship Blast

Seventy-two British officers and Indian seamen were reported dead or missing in the explosion and sinking of the British freighter Indian Enterprise.

The 7100-ton vessel, loaded with 580 tons of blast chemicals for the Indian government, and general cargo, blew to pieces in the Red Sea about 300 miles south of Suez and sank quickly.

Only one survivor, an Indian crewman, was picked up, seriously hurt. He was saved by a Norwegian tanker. At least five British officers were reported among the victims. The ship left London June 2 for Indian ports with an 8,000-ton cargo, including explosives put aboard by a British chemical firm, the nature of which were not divulged.

* * *

Fumigating Gas Fatal to British Seaman

One seaman was killed and about 38 others were made ill July 5 by fumigating gas aboard the 10,000-ton British liner Cheshire in the Mersey River docks. The victim died in a hospital

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To 1950

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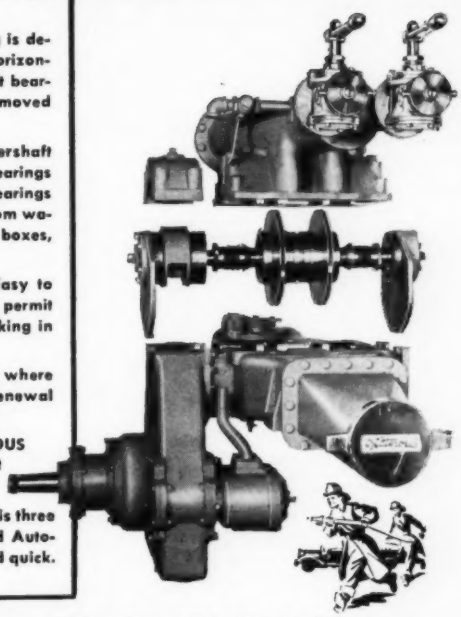

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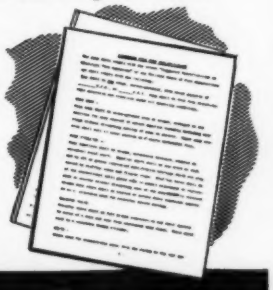

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while receiving treatment; most of the others recovered soon.

The liner was being prepared for a voyage to Australia with British emigrants. Crewmen said the vessel was declared safe the morning after the fumigation. However, the men became ill in the engine room when an air compressor was turned on, apparently dislodging a gas pocket. Earlier reports of an explosion were discounted.

British firemen with breathing equipment aided in removing the victims.

* * *

Mysterious Box Plops from the Sky

A plastic box carried through the air by twenty balloons landed on a health farm near Aurora, Ont., on July 16th, to puzzle police and natives. The puzzlement developed into concern when it was discovered that the box bore lettering "DANGEROUS—DO NOT TOUCH!"

Four of the balloons were deflated; the other sixteen were believed filled with flammable hydrogen gas. The box measured five feet by three feet.

The mysterious package was brought to Aurora, where it was disclosed that it belongs to the University of Chicago, which sent officials to retrieve it.

Verily, there are things going on of which we wot not!

* * *

X-Curricular Work Brings Death

This item from "Fire," Journal of the British Fire Service, may be interesting to those fire chiefs who ponder just how far to extend their extra-curricular rescue and other emergency activities!

According to a verdict of accidental death at an inquest on Fireman Colin Hill, 39, Sheffield Fire Brigade, who lost his life in rescuing a cat from a tree, Coronel A. P. Lockwood of Sheffield said:—"We are supposed to be a nation of animal lovers but I believe only those of the most extreme views could contemplate with equanimity that a man should lose his life in this way.

"I think it will rather shock the public to hear that a man can be allowed to lose his life in these circumstances. I feel that in the light of this fatality the question, as to how far a man should be allowed to go with such an object should be very carefully reviewed."

It was stated in evidence that Fireman Hill, using a 35 ft. extension ladder, almost reached the cat (in the tree) when it began to climb higher. Fireman Hill followed, but a branch broke and he fell 40 ft. to the ground, being fatally injured.

Leading Fireman Arnold said that Fireman Hill was not wearing a safety belt, and that if he had not followed the cat he would not have been regarded as having failed in his duty. Calls to rescue cats were routine; in this case the cat had been up the tree for some hours.

Off the Tape

A French passenger plane crashed in flames shortly after taking off from the Casablanca Airport, July 9th, killing 21 of 30 persons aboard. A blazing piece of wreckage fell on a nearby house and a mother and child suffered severe burns. All victims were French. The plane, a DC-3, took fire in the air, crashed from a height of 500 feet. Question of sabotage is being investigated. . . . A cloud-seeding pilot is credited with helping put out a 12,000-acre forest fire near Los Angeles. The U. S. Forest Service asked Bob Symons, pilot of the California Electric Power Company, to seed the clouds with dry ice as part of the battle against the blaze. A little rain is said to have fallen before seeding, but it is reported it poured down afterwards. . . . Fire destroyed the center of the fishing resort of Hundested, Denmark, causing damage estimated at $175,000. . . . Eleven men died and twenty-six were hospitalized July 2 because of a carbon monoxide gas leak at an iron works near Consett, England. . . . In Houston, Tex., William Alford, 40, found a bomb in his backyard. He pulled the pin. He died two days later of injuries and burns. "It was a small bomb and I thought it was dead," he said. The explosion mangled a hand and set his clothes afire. Police thought it was a phosphorous bomb but had no idea how it got into Alford's yard. . . . Officials of the Texas Eastern Gas Company investigated the cause of an explosion on July 2 that ripped up twelve feet of the "big-inch" pipeline two miles southeast of Beallsville, Ohio. Flames towered in the sky, casting a glow visible 60 miles away. . . . Fire damaged two British railway passenger trains but travelers escaped injury. The southern region's "Thanet Belle" was halted in a London suburb after the roof of a coach had been discovered ablaze. Another train was halted at Lowestoft, 120 miles from London, when fire was found in a vestibule between coaches. Don't tell us the British use combustible coaches! . . . . A 24-passenger Cierva Air Horse helicopter, said to be world's largest, crashed and burned on a test flight near Southampton, Eng. Pilot and two passengers were killed.

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Fog Fire Pumps and Guns

Myers Bulldozer Fire Pumps
CAPACITIES: 60, 40, 20 and 15 GPM.—PRESSURE: 800 LBS.

Three models—Giant (shown above), Triplex and Duplex. More power, less weight. Myers Fire Pumps are furnished with large, extra-heavy air chamber—All are perfectly balanced. Spring-loaded flat valves eliminate slippage — positive seating. Many other special improvements.

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Speedier, easier, single-control operation. No recoil. Durable, light-weight. All parts non-corrosive. Guns for long-distance fire fighting also available. All Myers Fire Guns supplied with discs to handle various capacities.

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Persons in the News

Edward MacDonald Sworn in As White Plains, N. Y., Chief

Fire chiefs from Elmira, Utica, Schenectady, Poughkeepsie, New York City and many Westchester County communities, together with a large delegation of White Plains firemen and city officials witnessed the induction of Edward J. MacDonald as Chief of the White Plains Fire Department, on July 1.

Following the ceremonies at the City Hall, in which Fire Commissioner Frank T. Hanlon officiated, a luncheon was held at Dick Hayes' place.

The Uniformed Firemen's Benevolent Association presented Mrs. MacDonald a bouquet of roses.

B. Richter Townsend, Chief, Bureau of Fire Mobilization of the State Division of Safety, who arranged the testimonial, introduced the visiting chiefs.

Retiring Chief H. Abbott Griffin spoke briefly, praising the department which he directed for many years, and wishing its new head the best of luck.

Chief Baldwin Injured

Fire Chief Thomas W. Baldwin, who only a few months ago took over as head of the East Orange, N. J., Fire Department upon the retirement of Chief Charles McGinley, suffered severe head injuries in July, in a fall from the gangplank of the U. S. Liner "America" at Pier 61, Manhattan. Baldwin was one of a group wishing bon voyage to East Orange officials who were leaving for Europe.

The Chief was on the gangplank when operators began to move it; the gangplank suddenly lurched, pitching the Chief off onto the dock where he landed on his head. He was taken to St. Vincent's Hospital, New York, where his condition was listed as critical.

Chief Peter Herd to Retire

Fire Chief Peter Herd, of Toronto, Ont., has been given a six month leave of absence and will be retired at the end of the year. He has been convalescing after a serious illness following an accident.

The Board of Control named Deputy Chief Albert Steen to assume the office of acting chief until December, when at this time his appointment for chief of the department will come before the Council. The board also indicated that Joseph Waterman will become the senior deputy chief, and a second deputy will also be appointed.

The acting chief will make his recommendations to fill the vacancies created by the changes in the senior officers.

J. K. Lee.

Chief Paul P. Adams Retires

The Plainfield, N. J., Pension Commission granted the request of Paul P. Adams, Chief of the Fire Department, for retirement to be effective July 1, 1950.

He had been a member of the Fire Department for 40 years. The Chief bade farewell to his men at their 8 A.M.

Photograph courtesy of The New York Board of Fire Underwriters

"Hundreds of thousands of dollars of plant equipment is saved in this manner..."*

Modern day fire losses are greatly reduced by the spreading of salvage covers as shown in the above picture. Hundreds of thousands of dollars worth of equipment, machinery, merchandise, fixtures, and furniture are protected each year in this manner.

Salvage covers which shed and trap excess water, alleviate smoke damage are becoming more and more important in reducing a city's fire loss record.

Fulton's famous *SHUREDRY* Green-Bak Salvage Covers are pressure impregnated with the exclusive Fulton dry treatment, top every test for water penetration and seepage.

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**From The Home Insurance Company's full page ad appearing in the Journal of Commerce, citing the excellent work of the N. Y. Fire Patrol.*

Shuredry GREEN-BAK SALVAGE COVERS

APPROVED by National Board of Fire Underwriters and by Factory Mutual Laboratories.

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roll call on July 1, 1950. Every member of the department, except those on vacation, were present, as well as members of the Councilmanic Fire Committee. The President of the Firemen's Mutual Benevolent Association presented Chief Adams with two pieces of matched luggage.

Chief Adams was born January 16, 1890 at Long Eddy, New York, spending his early years in that community. He came to Plainfield in 1909, started as a "special" in the Fire Department, the following year, was appointed a regular in May, 1913, and in December, 1924, was appointed Captain. December, 1938, he was appointed Deputy Chief and, upon the retirement of Chief Wesley J. Dunn, he was appointed Acting Chief. He was appointed Chief of the Plainfield Fire Department in May, 1945 and served in that capacity until his retirement.

The Chief and Mrs. Adams will move to Clearwater, Florida, to live in a home located in an orange grove.

Col. Clarence Goldsmith Retires

The National Board of Fire Underwriters has announced the retirement of Col. Clarence Goldsmith, assistant chief engineer in charge of the National Board's Chicago office, after 43 years service. He is being succeeded by John H. Arnold, who has been an engineer in the Board's New York office.

Colonel Goldsmith entered the employ of the National Board of Fire Underwriters in 1907, several years following his graduation from the Massachusetts Institute of Technology. He was placed in charge of the Chicago office of the National Board when that office was established in 1918.

In both World War I and II he served as an expert on fire protection. For nearly two years during World War II he worked with the Chemical Warfare Service assisting in the development of incendiary bombing techniques. He was also chief consultant on fire protection for the Office of Civilian Defense. In 1944, the OCD awarded him its Service Bar in recognition of 4000 hours of unpaid service contributed to civilian defense.

During the last months of the war in Europe, Colonel Goldsmith aided the U. S. Strategic Bombing Survey in studying the effects of the bombing of the Ploesti oil fields in Rumania and incendiary bombing in Germany, and helped work out bombing data used by the U. S. Army Air Force in its final attacks on Germany.

John H. Arnold, who succeeds Colonel Goldsmith, has had long experience as an engineer on the National Board's municipal survey work. He is a graduate of Bucknell College, 1911, and engaged in civil engineering work for several years before joining the National Board's engineering staff in 1920.

In World War I, Mr. Arnold held a commission in the Corps of Engineers U. S. Army. During World War II, he inspected army installations and shore establishments as part of the National Board's program of cooperation with the War and Navy Departments.

As chief of the Chicago office, with the title of assistant chief engineer, Mr. Arnold will direct the work of engineers who inspect the fire fighting facilities, water supplies, structural conditions and conflagration hazards of all cities over 25,000 population throughout the Middle West. This is part of the National Board's broad program of public service to improve the fire defenses of American cities and reduce fire losses.

Obituaries

W. F. Conran Dead

William F. Conran, seventy-six, an honorary Deputy Chief of the Fire Department and the inventor of a number of fire fighting devices, died July 23 at his home, 781 Carroll Street, Brooklyn after an illness of several months.

Chief Conran, a trustee and chairman of the Honor Emergency Fund of the Fire Department, was the inventor of a water pressure reducing valve in general use in most large office buildings of the city and the country. He was the inventor of a hydraulic stand pipe and a device for fighting pier fires that featured a built-in monorail under the pier.

He was born in Manhattan but had lived in Brooklyn for sixty years. For forty years he was a summer resident of Amityville, L. I., where he was a member of the Volunteer Fire Department.

In 1910, when he was Chief of the Volunteer Fire Department of Amityville, L. I., he served as Chairman of the Exhibit Committee of the International Association of Fire Chiefs. Under his direction, at the convention in Syracuse, N. Y., that year, the first competitive tests were run on automobile fire en-

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gines. Other members of the Committee were: the late Chief Fillmore Tyson, Louisville, Ky.; the late E. F. Dahill, New Bedford, Mass.; the late Chief Charles J. Lauer, Columbus, Ohio, and Chief R. A. Maxon of Gloversville, N. Y.

Chief Chase's Wife Dies

Mrs. Henry R. Chase, 60, wife of Chief Henry R. Chase of Miami, Fla., died July 6, 1950, at her home from a heart ailment. The fire department's emergency squad was called during the final hours of her illness and worked over her steadily for two hours.

Mrs. Chase was a native of Ocala, Fla., and she and Chief Chase had been married 44 years. Surviving are three daughters, three sisters, a brother and four grandchildren.

The Chief's wife is remembered by fire officials from all over the country as a gracious hostess upon the occasion of the Convention of the International Association of Fire Chiefs in Miami in 1948, during Chief Chase's tenure as president of the organization.

Walton, Fire School Instructor, Dead

A veteran Birmingham Fire Fighter, Chief W. M. Walton, 53, of 5008 Ninth Avenue North, died June 23rd at a local hospital after an illness of several months. Chief Walton was born in Birmingham, April 21, 1897. He served in the Birmingham Fire Department for 27 years. At the time of his retirement he was a Battalion Chief.

He followed in the footsteps of his father, William P. Walton, who was Chief of the Birmingham Fire Department in 1905.

Since his retirement he had served with the Trade and Industrial Education Service as State Instructor in Firemanship at the University of Alabama. He was a member of the Board of Directors of the Alabama Fire College and Chairman of the Training Committee. He was a past president of the Alabama State Firemen's Association, a member of the International Association of Fire Chiefs, the International Association of Firefighters and the Southeastern Fire Chiefs Association.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of July, 1950.

Month Ending July 31, 1950

Marysville, Cal.—Dover Lumber Co.'s sawmill, Yuba County, Arboga district, damaged.
Santa Maria, Cal.—Compressor plt. of Union Oil Co. damaged.
Detroit, Mich.—Detroit Recreation Department's camp damaged.
Metuchen, N. J.—Truck terminal, 11 huge loaded trailers, five tractors, half a dozen passenger cars at Kramer Bros. Freight Lines, Inc., damaged.
Scranton, Pa.—Valley View Coal Co., Jenkins Township, damaged.
Tacoma, Wash.—Irwin-Jones Motorcar Co. plt. damaged.
Baltimore, Md.—Midway Inn, tavern-night club, Pulaski Highway, destroyed.
Henderson, N. C.—Main plt. of Perry Lumber Co., destroyed.
Cleveland, Ohio—Plt. of Basic Aluminum Castings Co. destroyed.
Fairview, Okla.—Gasoline and kerosene storage tanks damaged.

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DeLuxe CUSTOM BUILT EQUIPMENT with or without the FLOODLIGHTING FEATURE, All Steel Enclosed

THREE - MODELS

THE SENIOR (3 ton Chassis, 175" Wheel Base)

THE STANDARD (2 ton Chassis, 158" Wheel Base)

THE NEW X-L ECONOMY UNIT (1½ ton Chassis, 158" Wheel Base)

All Models carry complete First Aid and Salvage Equipment as required by the customer.

The SENIOR MODEL—most suitable for cities, is equipped with exterior and interior compartments and seats for the crew. Five built for the City of New York; one with portable floodlighting equipment and four with 10KW power take off driven generator and elevator controlled floodlights. Three built for the City of Philadelphia, with 10KW elevator controlled floodlights.

The STANDARD MODEL—for the average Fire Department, with or without elevator floodlights, equipped with exterior compartments, and the interior equipped with mounted stretchers and seats for the crew. This model in service in many Fire Departments for over 10 years.

The NEW X-L MODEL—provides maximum facilities at minimum cost.

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Builders of Fire Department Pumpers, Tankers and Airport Crash Trucks

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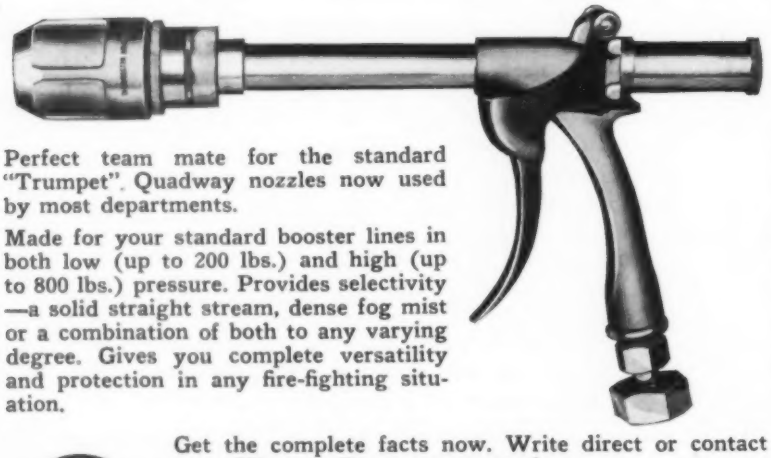
St. Albans, Vt.—Trestle of Central Vermont Railway across Missisquoi Bay in Lake Champlain, destroyed.
Terre Haute, Ind.—A bulk storage tank of the Mid-Continent Petroleum Co., destroyed. Explosion.
Sioux City, Ia.—Two-story bldg. occupied by Atlantic and Pacific Tea Co. and Reliable Furniture store, damaged.
New Orleans, La.—Mangel's of Louisiana, Inc., dept. store, damaged.
Hampton Beach, N. H.—Main boulevard along the beach, Dudley Hotel, Mahoney's Restaurant, Howard Johnson ice cream stand, Playland amusement center, photo shop and restaurant stand and several cottages damaged.
Jersey City, N. J.—R. H. H. Steel Laundry bldg. damaged.
Oregon City, Ore.—J. C. Penney Co.'s branch store destroyed.
Greenville, Ohio.—The foundry of the Treaty Co., destroyed.
Pittston, Pa.—Breaker of Valley View Coal Co., Jenkins township, destroyed.
Mobile, Ala.—Retail sales dept. of Van Antwery-Aldridge Drum Co., damaged.
Illiopolis, Ill.—Masonic Temple damaged.
Marion, Ill.—Furniture whse. and vacant dwelling, destroyed.
Winchester, Ind.—Meyer Mfg. Co., makers of caskets and casket shells, destroyed.
Cleveland, Ohio—Van Rooy Coffee Co. bldg. damaged.
Athens, Tenn.—The Athens Chair Co. plt. destroyed.
Humbolt, Tenn.—Entire business block of fruit and vegetable district, destroyed. Straw and trash.
Palo Alto, Cal.—Rug dept. of Bailey's Peninsula Furniture Co. destroyed.
Buhl, Ida.—Buhl Service Station destroyed, along with business district of city. Explosion.
Rockingham, S. C.—Administration bldg. of Morrison Training School, destroyed.
Van Wert, Ohio—Weiker Grain Co. elevator. Spontaneous ignition.
Kershaw, S. C.—Kershaw Mercantile Co., large dept. store, destroyed.
Exeter, Cal.—Lucidi Oil Products plt., Highway 65, damaged.
San Jose, Cal.—Kurze Electrical Works damaged.
Charles Town, W. Va.—Two large barns on estate of Dr. John A. Washington, damaged.
West Orange, N. J.—Lumber yd. operated by Henry A. Becker Co. and Bailey-Whalen Sales Co. damaged.
Grants Pass, Ore.—Merlin Lumber mill, destroyed.
Vancouver, B. C.—Acme Shingle Co. destroyed.
Santa Maria, Cal.—Sun Ray Oil Co. refinery, two distilling towers, two oil storage reservoirs, damaged.
Alton, Ill.—Central Junior High School damaged.
Warsaw, N. Y.—Showroom and garage of Colonial Auto Sales Corp., damaged.
Gresham, Ore.—Barger Lumber mills damaged.
Radford, Va.—City Hall destroyed. Defective wiring.
Columbia City, Ind.—Elevator owned by a stock company of farmers of the Peabody community, damaged.
Detroit, Mich.—Club Bali, luxurious night club, damaged.
Alymer, Ont.—Aylmer Baptist Church destroyed.
Homer, Ill.—Packing plt. of Forsythe Bros. Packing Co. destroyed.
Crystal, Mich.—Main bldg. of Crystal Trailer Co. destroyed.
Cleveland, Ohio—Business bldg. occupied by The World News Shop, cigar and magazine store, destroyed.
Cleveland, Ohio—Storage room of Hillside Dairy Co. damaged.
Fairview, Okla.—Seven gasoline and kerosene storage tanks and three whses. owned by the Phillips Petroleum Co. and Cities Service Oil Co., and Sinclair Oil Co., also a grain elevator, destroyed.
North Attleboro, Mass.—Factory and salesroom of Rogers Coat & Dress Co., Inc., damaged.
Bend, Ore.—Silver Lake Lumber Co. destroyed.
Philadelphia, Pa.—L. Halpern's Roumanian Restaurant damaged.
Ottawa, Ont.—Large business and apt. bldg. damaged.
Vancouver, B. C.—Distributor machinery bldg., the Columbia Pier, overhead grain conveyor, and 14 box cars on railway siding, destroyed.
Akron, Ohio—Summit Beach dance hall, damaged.
Pasadena, Cal.—Colony Restaurant destroyed. Smoldering cigarette.
Washington, D. C.—Carvin's Restaurant, destroyed.
Salem, Ky.—Theatre, hotel and drug store, destroyed.
Decatur, Ill.—Newman store, a three-story women's wear mart, destroyed.
New Hampton, Ia.—Boyd Hatchery bldg. destroyed.
Astoria, Ore.—Del Mar Canning Co. damaged. Explosion.
Knoxville, Tenn.—Whse. bldg., French Broad Dairy destroyed.
Helper, Utah—Diamanti bldg., housing the Colonial Hotel, a cafe and club, Paul's barber shop, Your Bakery, Helper State Bank, destroyed.
Arlington, Va.—Four-engine Capital Airlines plane, Washington Natl. Airport, damaged. Explosion of gasoline tank in hangar.
Houston, Tex.—Wholesale gasoline company, four dwellings, cafe, garage, two cars and five trucks, destroyed.
London, Ont.—Edmonton, Alta, Saskatoon Welding and Machine Co. destroyed. Explosion.
Lake Preston, S. D.—Two large bldgs., Farmers Union Storage bldg. and filling station, adj. Gospel Tabernacle church destroyed. Match or cigarette onto oil and gasoline soaked ground.
Hornbrook, Cal.—Sawmill owned by Bruce DeMeres destroyed. Sparks from sawdust burner.
Rulands, Cal.—Main bldg. of Gill Battery Co. damaged.
Rialto, Cal.—Bldg. and contents of Dalmatian Olive Products Co. damaged.
Baltimore, Md.—Kermisch's Dept. store damaged. Adj. bldg. occupied by William Walter Furniture Store, Tailoring Institute, damaged.
Warrenton, Ore.—Del Mar Canning Co. plant, Columbia River, damaged.
Luray, Va.—Canning plant of I. N. Dovel Co., Inc., destroyed. Adjacent Hawksville Hatchery damaged.
Muncie, Ind.—Lacquer room of American Lawn Mower Co. plt. damaged. Explosion.
Penn Yan, N. Y.—Two department stores and a liquor store in a pair of two-story buildings, next door to Engine House No. 1 in the north end, damaged.
Lewistown, Pa.—Lewistown Cleaning and Laundry Co. plant damaged.
Clarksville, Tenn.—The Texaco gasoline distributing plant, four storage tanks, an auto and truck, destroyed.
Newberry, Mich.—Sawmill, planing mill and powerhouse, Michigan Pole and Tie Co., destroyed. Defective switch on motor.
Oriskany Falls, N. Y.—Robert G. Shaw General Store damaged. Spontaneous ignition.
Sharon, Pa.—Plant of General American Transportation Corp. damaged.
Vancouver, B. C.—Five hundred-foot Richard Grain Terminal, machinery, contents damaged.
Minto, N. B.—Four bldgs. destroyed.
Perow, B. C.—Four sawmills destroyed. Forest fire.
Ottawa, Ont.—Business-apt. bldg., Bank St., damaged.

Don't miss seeing the new "Trumpet" Quadway Fog Gun



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Made for your standard booster lines in both low (up to 200 lbs.) and high (up to 800 lbs.) pressure. Provides selectivity—a solid straight stream, dense fog mist or a combination of both to any varying degree. Gives you complete versatility and protection in any fire-fighting situation.

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MANUFACTURERS OF A COMPLETE LINE OF DISTINCTIVE FIRE FIGHTING EQUIPMENT

Fourth of July

(*Continued from page* 634)

Persons in the neighborhood reported seeing children playing with fireworks in the highly hazardous area before the fire and from the evidence, firemen blamed the fire on sparklers. The sparks emitted from the sparklers are not dangerous, fire department investigators reported, but the wire on which the powder is fastened becomes red hot and can ignite wood or similar substances.

MAYWOOD, N. J.—Police were busy investigating the shooting of fireworks in the Borough, which in one instance resulted in the first local firecracker injury in years. A 5-year-old lad suffered injuries when a group of boys placed a lighted firecracker in his back pocket. It was disclosed that fireworks were brought in from out-of-the-state.

RICHMOND, IND.—Four men were injured by the explosion of more than half the fireworks of the American Legion's Fourth of July celebration in one blast, on the night of the Fourth. Two spectators and two employees of the fireworks company were burned by the explosion of an aerial bomb in a 12-in. gun. This set off a crazy quilt display of rockets, and bombs, but other persons in the crowd of 15,000 at Glenn Miller park escaped injury. No fires ensued. Two other persons were burned by fireworks at their homes the same evening.

MISSION, S. D.—The first death in the nation directly attributable to fireworks over the July Fourth holidays was reported from here. John Larson, 55, Mission farmer was the victim. He died en route to a hospital after a large fireworks display of an American flag exploded at the annual community Fourth of July display near here. The display blew up in his face. The celebration was called off after the accident.

KANSAS CITY, MO.—Orville Willis, 52, a representative of a fireworks display company was seriously injured the night of the Fourth as a result of an explosion of fireworks at Starlight Theatre, in Swope Park.

CONWAY, MASS.—Fire destroyed the 92-year-old town hall here July 4th, and almost ruined the big holiday celebration, which was to dedicate a new swimming pool in the little community. Barely enough water was left in the town dam after the fire was put out to open the pool.

Valuable town records dating back to 1767 were saved as fire raced through the wooden town hall. Firemen from five Franklin County towns fought the blaze for almost three hours before controlling it. Fire Chief William J. Fitzgerald blamed the fire on a short circuit in an auxiliary lighting system although there was some talk of fireworks. With the fire siren in the hall out of commission, volunteers had to be routed out of bed by telephone. Property loss was reported at over $40,000.

STATEN ISLAND, N. Y.—Flames raced through a Tottenville, S. I., junk-yard the afternoon of the Fourth, spreading to four storage sheds and two garages. By the time firemen arrived two nearby homes also were destroyed. Cause?—fireworks plus children suspected.

C-O-TWO ANNOUNCES

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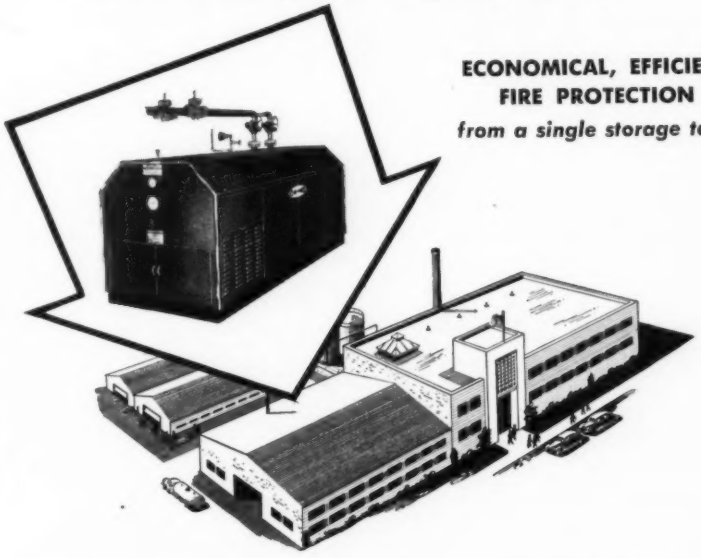

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Ladders

(*Continued from page 630*)

No single type can be "all things to all men." Each type of ladder material and method of construction has its advantages and disadvantages. Often these differences are hidden or, where observed, may be unduly elaborated upon, to confuse and bewilder because the details are not explained.

Perhaps the greatest differences of opinion, and misunderstanding, exist in the contemplation of wood vs. metal ladders. The factors most discussed, and misunderstood are: heat conductivity, strength; and electrical conductivity.

Obviously, any study of the uses and applications of fire department ladders must include consideration of ladder limitations, of the possible advantages and disadvantages of respective ladders for the work to be performed.

In order to help clarify this consideration and hence the understanding of possible ladder limitations the following may prove helpful:

Heat

What effect has heat and cold on various ladder materials?

The heat generated in the average burning building is said to be 1500 deg. F. The wood ladder ignites at a temperature varying from 650 to 850 deg. F. A British journal has published the results of tests and the charring point for wood aerial ladders under service conditions is 450 to 600 deg. F.

There are many factors that make these figures variable but they are sufficiently defined to enable their use for comparison purposes. Nearly every fire officer has seen fire department ladders burn and it may safely be assumed that temperatures of 650 deg. F. and higher prevail about the ladder.

The relative heat conductivity of the ladder materials then becomes important where a ladder is subjected to these temperatures as a metal ladder may soon become too hot to be used without danger of burns.

The heat conductivity of a material is measured by the number of B. T. U.'s per hour, per square foot of surface that are conducted through a material one-inch thick, raising the temperature of the opposite surface one degree fahrenheit.[1]

The comparative conductivity of wood, steel and aluminum, measured on this basis may be established as follows:

Douglas Fir (12% moisture content)	.75 B.T.U.
Steel	310.00 B.T.U.
Aluminum	1,509.00 B.T.U.

Thus, if wood is taken as unity, or 1, steel has 415 times the rate of conductivity of wood, and aluminum has 2,025 times the rate for wood, or 4.8 times the rate for steel.

Material Strength

Two factors bear upon ladder strength in making any comparison or tests of materials in ladders: elastic limit, and tensile strength.

Elastic limit is the maximum load or pressure that can be applied to a material which, when removed, permits the material tested to return to its original position or shape. We shall hear more about elastic limit in the later chapter on ladder testing.

Tensile strength is the maximum load that can be applied in tension before failure occurs.

Test figures for material strength are usually given in terms of pounds per square inch of material. Thus the strength of a section can be determined when the area and material are known. When bending strength is to be considered, the shape and height of the section, the material, are, a distance between supports and other factors must be considered, which space does not permit doing here.

For a comparison of materials, however, the elastic limit is used as the strength figure for ladder material. Fundamentally the student of ladder uses and applications is interested in the load that can be carried without permanent set or deformation of the ladder. Of course it is nice to use tensile strength figures as they are always higher than elastic limit figures.

Knowing that ladders are subject to temperatures of over 600 deg. F., a comparison of strength up to that temperature may prove instructive.

Elastic Limit—Pounds Per Square Inch

	75° F.	300° F.	400° F.	600° F.
Wood	8,000	4,500	3,500	.....
Aluminum	35,000	32,000	19,000	3,000
Steel	52,000	48,000	46,000	37,000

[1] B.T.U. is an abbreviation of British Thermal Unit, which is a recognized unit for the measurement of heat. One B.T.U. is the heat required to raise the temperature of one pound of water one degree Fahrenheit.

Chief! See You at San Francisco

Be sure to make the International Convention this year, September 12-15, and visit our Booth No. 9.

Let us show you how our new features, the very latest developments in Life-Saving, are enabling Fire Departments like yours all over the country to do a better job and save more lives. *You can do the same!* See you there.

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For decreasing temperatures below normal temperature of 75 deg. F. there is an increase in physical strength characteristics, to about 20 deg. F. The strength then begins to decrease, but at temperature as low as 40 deg. F., remains equal to or better than the strength characteristics at 300 deg. F.

Electrical Conductivity

The question of comparative electrical conductivity of materials used in ladders is often raised by firemen because of the necessity of using ladders around wires carrying a high voltage.

Inasmuch as wood is classed as a dilectric or insulator, the first comparison is on a basis of resistivity to the various materials. Resistivity is measured by the number of ohms resistance per cubic centimeter of material at a temperature of 68 deg. F.

Material	Resistivity
Douglas Fir—surface resistivity—(90% humidity)	1,000,000,000
Fresh water	3,000
Sea water	25
Steel	60
Aluminum	3

Stating this comparison in terms of relative conductivity with wood as the base, or unity, we find:

Fresh water	333,333 x wood
Sea water	40,000,000 x wood
Steel	16,666,666 x wood
Aluminum	333,333,333 x wood

San Francisco

(*Continued from page* 642)

enjoying its bazaars, its shops, its nightclubs, its restaurants, its residents of the largest Chinatown outside of the Orient. Let him visit North Beach and Fishermen's Wharf, to see the stout fishing boats that go forth each day to harvest from the sea the salmon, sole, crabs, shrimps and other fine seafood he will enjoy in the many restaurants at that famous spot. May he enjoy the other restaurants of this city famous the world over for her fine food, her theatres, her night clubs, her wonderful Golden Gate Park, her ocean beach with the Seal Rocks and Cliff House, and all the other attractions of the city.

San Francisco is the southern gateway of the great Redwood Empire which extends northward in California and includes Josephine County, Oregon. The Empire is linked with the northbay counties by the Great Golden Gate Bridge, longest and tallest single-span suspension bridge in the world. Its mighty central span is 4,200 feet long and chiefs attending their Conference in San Francisco should not miss a trip across the bridge, for a short or a long and, in any case, fascinating trip into the rest of the Empire.

The counties of the Empire include San Francisco, Marin, Sonoma, Napa, Lake, Mendocino, Humboldt and Del Norte (California) and Josephine County (Oregon); every one of them is beautiful and fascinating with many natural scenic and recreational attractions. The autumn color of the region is particularly wonderful—the purple and yellow of the vineyards, the red of the madrone trunks, the orange and crimson of the dogwood leaves, the brilliant coloring of the vines on the trunks of the mighty redwoods.

Every county has its wonders, easily seen by those who travel on the great $200,000,000 all-year, hard-surface high-

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way network of the Empire. One may travel by train or plane or bus or private automobile to Muir Woods in Marin County, to vineyards of Napa, Sonoma or Mendocino, along the spectacularly beautiful coast, to the Russian River, to the Valley of the Moon where Jack London lived, to Santa Rosa and the gardens of Luther Burbank, the plant wizard, to the Petrified Forest, to health resorts, to leaping geysers at Calistoga, to the charming lakes of Lake County, to the gloriously impressive redwood giant country of Mendocino, Humbolt and Del Norte, to Josephine County with its fascinating Oregon Caves, to all the mighty rivers of this great region and one will realize that, just as San Francisco is the undisputed gem of the West, so the Redwood Empire is its matchless setting.

Youth Confesses Setting Fatal Hartford Circus Fire

(*Continued from page 640*)

vestigation of the facts concerning Segee has disclosed, according to his own admission, that he is responsible for the following major fires:

"(1) Ringling Bros. & Barnum & Bailey Circus, Hartford, Conn., July 6, 1944, 168 lives lost;

"(2) An abandoned schoolhouse at Dennett and Chestnut Streets, Portsmouth, N. H., fall of 1938;

"(3) Ship chandler's store, owned by the Sargent & Lord Co., commercial wharf, Portland, Me., March 4, 1940;

"(4) Warehouse fire, 4345 Market Street, Portland, Me., Sept. 29, 1942;

"(5) Salvation Army building, 9 and 15 Union Street, Portland, Me., Jan. 13, 1943;

"(6) The Diamond Match Lumber Co., Portsmouth, N. H., Jan., 1939;

"(7) Portland Pier, the National Youth Administration, Portland, Me., Feb. 11, 1942;

"(9) Quality Fixture Co., Columbus, O., Jan. 10, 1947, and

"(10) Fruehof Trailer Co., Columbus, O., March 30, 1947."

Segee was taken into custody through a tip from another man who was convicted of setting a Circleville, O., fire. Ohio authorities picked up Segee at an E. St. Louis, Ill., farm where he had been living. The youth waived extradition and accompanied the officers to Circleville.

Radiological Defense Course

A five weeks civilian radiological defense training course, sponsored by the National Security Resources Board and the Atomic Energy Commission, and coordinated by Dr. Arthur F. Scott, was held starting June 19th at Reed College in Portland, Oregon. A prerequisite to attendance was a college degree in chemistry or physics. All of the students were from the four Pacific Northwest states of Oregon, Washington, Idaho, and Montana, and were either high school teachers of chemistry or physics, or college professors, with the exception of three, who were Portland firefighters. They were Arthur M. Pederson, Wilbur C. Patheal and Tom C. Turlay.

Graduates of this course will organize similar training programs in their home states or assist in training instructors for civilian defense radiological monitoring teams. The three firefighters will be qualified to train the Portland department in all aspects of radiological defense, to include radiological monitoring and use of detection equipment, biological effects of radiation, bomb phenomena, radioactive decay, etc.

While other schools of similar nature will be conducted elsewhere in the United States, it is believed the Portland Fire Department was the first to qualify members for this course.—JACK LOWE.

Syracuse Hospitals

(*Continued from page 660*)

Syracuse hospitals have been working on fire safety programs for nearly a year, but the present campaign is being carried on in conjunction with a nationwide drive, sponsored by hospitals through the American Hospital Association. Locally the development of the fire protection plan is sponsored by the Syracuse Hospital Council, through an Inter-Hospital Safety Committee.

The National Board of Fire Underwriters, represented by Arthur Birchenough, and the Syracuse Department of Fire are co-operating with the hospitals in the latest undertaking.

In recent months the Fire Department, under Chief William J. Connelly, has been doing intensive work in checking fire hazards, and in instructing hospital personnel in fire prevention methods. Fire drills are being staged in hospitals by fire officers. These officers also have checked fire fighting equipment in the institutions, and instructed hospital personnel in its use.

Each hospital is planning a contin-

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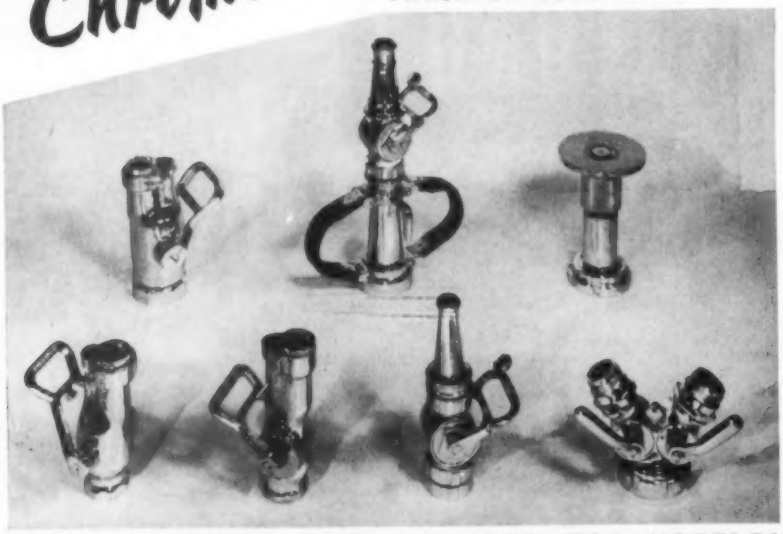

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ing program, with special emphasis on preparation of a plan for evacuation in emergencies.

In keeping with the American Hospital Association project, copies of recommendations that are being, or will be, complied with locally in the immediate future are being forwarded to that agency. This will give the national body a composite picture on a county-wide scale. Copies of recommendations growing out of the study will also be sent to each individual hospital, to avert possible delay in development of the proposed safety measures.

The inter-hospital group has been addressed by representatives of the Fire Department. The Safety committee attended a demonstration of the use of fireproof paint, which was given at the Training Tower, under the direction of Chief Connelly.

The subject of flame-proofing methods to protect fabrics and other hospital materials is now being studied, and considerable research along this line has already been done.

Unusual Fire Damages Lighthouse

Two men were burned seriously on July 7 last when fire, started as gasoline was being unloaded from a barge, swept the large Canadian lighthouse in Lake Erie, about ten miles east of Pelee Island, north of Sandusky, Ohio.

Canadian Lighthouse Burns

The men were William Moore, 50, of Leamington, Ont., the lighthouse tender, and Dowsley Kingston of Prescott, Ont., member of a ship's crew. Both were hospitalized in critical condition at Leamington, where they were taken by rescue boats brought to the scene by the pillar of smoke and radio calls for help.

Crewmen aboard the Canadian buoy tender Grenville, which services the government's light ships and houses, said the fire started as they were unloading gasoline. As the fire flared, the injured men were rescued and rushed aboard the tender which pulled away from the lighthouse.

Five Coast Guard picket boats tried vainly to extinguish the flames which were visible for many miles and attracted a number of marine craft. The damage was not reported.

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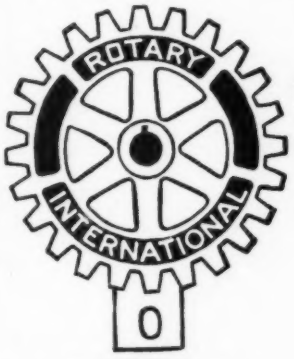

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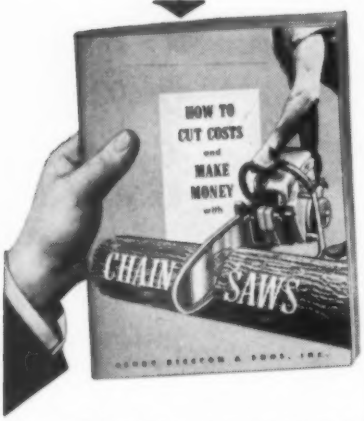

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42H

Fire Prevention Week

(*Continued from page 636*)

spring and fall seasons owners of vacant lots are requested to clear away all flammable brush and rubbish. This has materially reduced the number of fires in this category.

* * *

CHIEF MULLIGAN PRAISES FIRE SERVICE JOURNALS

Chief Terrence Mulligan of the Sacramento, Calif., Fire Department, in describing his city's successful 1949 Fire Prevention Week campaign, paid compliment to the impetus given fire prevention by Fire Engineering and other fire service publications. "It is my belief," wrote the Chief "that the intensive campaign being waged by editors in fire service publications is paying dividends."

Local newspapers prove a fertile field of promotion for Sacramento's week program. As a matter of fact, Chief Mulligan finds the papers most cooperative in keeping up fire prevention promotional pressure all-the-year-round.

If the 1949 Sacramento campaign taught anything, it is the value of sound, timely, newsy publicity which reaches the greatest number of people in the most telling manner. As witnessed by the accompanying picture, Chief Mulligan and his department overlook no opportunities to secure this publicity.

* * *

N.B.F.U. ISSUES FIRE PREVENTION POSTER

A new Fire Prevention Week poster for 1950 which focusses attention on the needless loss of life in fire has been chosen by the National Board of Fire Underwriters.

Available to local groups throughout the country for public display during Fire Prevention Week, October 8-14, the poster is designed to alert the public to the need for greater fire safety percautions in the home. It shows a mother playfully lifting a young child above her head and is captioned, "For their sake. . . . Prevent Fire, Save Lives." Fire records show that approximately 11,000 deaths from fire every year, at least three-fourth are in the home. Among youngsters fire continues to lead the causes of accidental deaths at home.

The National Board of Fire Underwriters' 1950 Fire Prevention Poster

The poster will be distributed free of charge to fire departments, local fire safety committees, schools, churches, safety councils and other groups which can effectively use it. The National Board suggests that those organizations wishing copies contact their local fire safety committees or local associations of insurance agents in order to avoid duplication of requests.

Public Relations and the Fire Fighter

A new booklet *"The Individual Fireman's Responsibility in Public Relations"* has been issued through the Committee on Firemen's Training of the National Fire Protection Association.

The publication, of 20-pages-and-cover, is intended to show how the individual fireman can influence the public toward his own calling and fire organization. The five chapters cover: The Importance of Good Public Relations; the Meaning of Public Relations; What the Public Includes; Attitudes and Reactions of the Public, and the Personal Elements of Public Relations.

Raritan Arsenal's Fire Prevention Week Float and Traveling Demonstration

The Ordnance Department, Raritan Arsenal, Metuchen, N. J., staged an aggressive Fire Prevention Week drive in 1949, a high point of which was this educational float. Both sides of the converted fire truck bore educational slogans, messages and displays of fire prevention equipment.

Questions and Answers

Constituents of Engine Pressure

To the Editor:

I would appreciate your telling me whether the following statement is "true" or "false."

"In the ordinary layout, nozzle pressure plus friction loss plus back pressure equals approximate engine pressure."

L. A. D.

Answer: This statement would be true if the line were stretched up an incline, such as up a ladder, up stairways, etc. It would be false, however, if the line from the pumper were stretched down an incline, such as a hill. In the latter case the engine pressure would be equal to the friction loss plus nozzle pressure minus the back pressure.

The way we would interpret the words "ordinary layout" would be to consider such a layout as being on the level. In this case the engine pressure would be equal to nozzle pressure plus friction loss.

Nozzle Sizes and Maximum Stretches

To the Editor:

1. Assuming 50 pounds nozzle pressure, what size nozzle would you use with the following layouts?

500-G.P.M. pumper with 400 feet of 2½-inch hose?

750-G.P.M. pumper with 400 feet of 2½-inch hose?

1,250-G.P.M. pumper with 400 feet of 2½-inch hose?

2. Above mentioned pumpers with 500-foot layouts of 2½-inch hose?

3. A 1,250-G.P.M. pumper is pumping through two lines of 250 feet of 2½-inch hose siamesed into a water tower 50 feet high. What is the largest size nozzle to be used?

4. What is the greatest layout in feet in the following:

(a) One 3-inch and one 2½-inch siamesed into a 1¾-inch nozzle?

(b) One 3-inch and one 2½-inch siamesed into a 1½-inch nozzle.

(c) One 3-inch and one 2½-inch siamesed into a 1⅜-inch nozzle?

In the above problems, please show steps in working same; also give the formulas for finding the number of lengths of hose for a given size nozzle. How does the size of pumper figure in these formulas?

K. J.

Answer 1. 500 G. P. M. pumper with 2½-inch hose.

To get 120 pounds at the engine, a 1⅜-inch nozzle would be required, with a nozzle pressure of 50 pounds. The discharge at this pressure would be 265 gallons per minute.

To secure this size nozzle it is neces-

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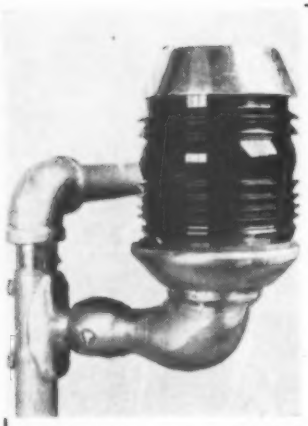

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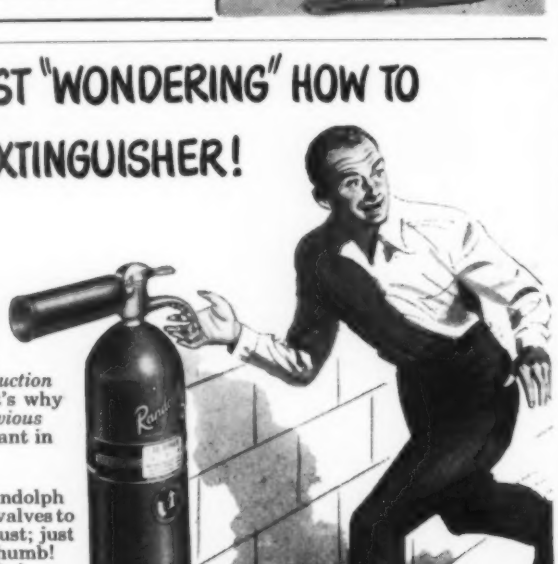

The first 10 to 30 seconds can mean the difference between *no loss* and *complete destruction* when fire starts. That's why Randolph's simple, *obvious* operation is so important in stopping fires *before* they spread!

Anybody can get a Randolph into action FAST! No valves to turn, no nozzles to adjust; just point and press your thumb! Randolph's snowy CO_2 is non-damaging, evaporates without a trace. It's non-toxic, won't conduct electricity, deteriorate or freeze.

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sary to take an assumed size nozzle and work through for engine pressure. When you find the size of nozzle which gives you the engine pressure which would deliver the 50 pounds at the nozzle, you have the correct size of nozzle.

With a 750 G. P. M. pumper, a 1¼-inch nozzle will be satisfactory. The discharge will be 326 gallons per minute at 50 pounds nozzle pressure and the engine pressure will be 153 pounds. A 750-gallon pumper can give 375 gallons per minute at 200 pounds, and the 1¼-inch nozzle is well within this requirement.

With a 1250 gallon pumper a 1⅜-inch nozzle would be satisfactory. A 1½-inch nozzle at 50 pounds would give a flow of 472 gallons per minute and the engine pressure would have to be 254 pounds, which is greater than the theoretical limit of 250 pounds.

With a 1⅜-inch nozzle at 50 pounds, the discharge is 396 gallons per minute and the engine pressure is 196 pounds. A pumper should give half its capacity at 200 pounds pressure and 396 gallons per minute is less than one-half of 1250 gallons per minute. The engine pressure will be 196 pounds, which is within the limits of specifications.

Problem 2. A 500-foot layout of 2½-inch hose at 50 pounds nozzle pressure.

A 500 gallon per minute pumper with 1⅛-inch nozzle and 50 pounds nozzle pressure would discharge 265 gallons per minute with an engine pressure of 137 pounds. This is within the performance of the engine. The engine could not supply a 1¼-inch nozzle with this layout as the flow would be 326 gallons per minute at 178 pounds, which would be more than fifty per cent of capacity at 200 pounds.

The 750-gallon pumper using a 1¼-inch nozzle on the line would give a flow of 326 gallons per minute at 178 pounds engine pressure. The larger size nozzle, 1⅜-inch, would require an engine pressure of 222 pounds and a discharge of 396 pounds, which would be more than fifty per cent of capacity at over 200 pounds.

The 1250 gallon pumper with 1⅜-inch nozzle would give a flow of 396 gallons per minute at 222 pounds engine pressure. This would be satisfactory. The engine could not supply a 1½-inch nozzle, for the pressure would be 304 pounds, which is beyond the maximum pressure specified for the engine.

Answer 3. The friction loss in the water tower is assumed to be 15 pounds. The back pressure for 50-foot extension of the tower would be 50x.434, or 21.7 pounds, or 22 pounds approximately.

Thus we have 15 plus 22, or 37 pounds to take care of beside the friction loss in the hose and the nozzle pressure.

A. First assume a 1½-inch nozzle. K for 1½-inch nozzle on parallel lines of 2½-inch hose is .135.

L would be 250÷50, or 5.

Engine pressure=nozzle pressure x (1.1 + KL)

$$=50x(1.1+.135x5)$$
$$=88.75$$

88.75+37 pounds gives 125.75 pounds.

The discharge at this pressure would be 472 gallons per minute.

B. Assume at 1⅜-inch nozzle.

K=.184.

L=5

$$E.P. = 50 \times (1.1 + KL)$$
$$= 50 \times 202$$
$$=101 \text{ pounds.}$$

101+37=138 pounds, and the flow would be 554 gallons per minute.

C. Assume a 1¾-inch nozzle.

K = .242
L = 5
E. P. = $50 \times (1.1 + .242 \times 5) = 115.5$
$115.5 + 37 = 152.5$ pounds.

The discharge at this pressure would be 643 gallons per minute. This is the maximum for the layout. With a larger size nozzle, the flow would be more than fifty per cent of the capacity of the pumper for a pressure of over 150 pounds per square inch.

Answer 4. This problem cannot be worked out for no experimental figures are available on friction loss of parallel lines, one of which is 3 inches in diameter and one of which is 2½-inches in diameter.

Fire Police

To the Editor:

I would like to have some information concerning fire police in connection with a fire department. We have experienced shortage of police protection at numerous fires, and I believe I have seen in FIRE ENGINEERING something about a department utilizing such a method. J. A. G.

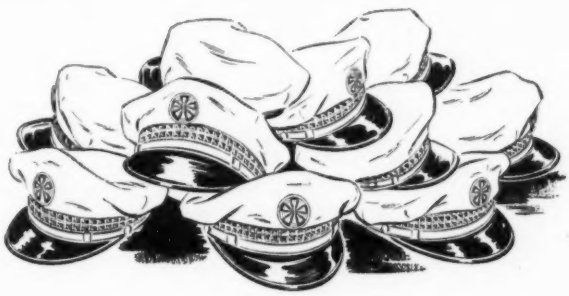
Answer: The practice generally is to organize fire patrols using older men, in many cases retired or exempt firemen. They are (or should be) given police powers, hence the need of having cool-headed men. They should preferably be uniformed, and as near the regulation police uniform as possible. Naturally, they should operate in close conjunction with the police and there should be complete harmony between the forces.

In some cities they retain the patrolmen (fire) as a separate and individual entity. In others, they are a part of each line company viz: ladder, hose, engine, rescue, etc. Best results, however, appear to come from having them as a complete, independent working company with their own officers, etc. In some cities where young men are taken into the patrol, they want to do fire fighting. This is not always advisable, as fire patrolmen are usually wanted for traffic and fire-line work. That is why older men are selected. Younger men should be taken into the line companies (if volunteer department) and made to fight fire, letting the oldsters, or incapacitated persons do the patrol work.

Duties of fire patrolmen usually are confined to traffic, but many communities have them do salvage work, carrying salvage covers on the patrol rig. This is all right if there are sufficient men in the unit, and they are physically fit, and well trained. They must have the proper clothing and equipment, however, if they are to do salvage work.

In some cities and towns they do ambulance and first aid work as well as patrol work. They are called fire and ambulance patrols. Here, also, there must be sufficient personnel to handle all the duties. Also, there must be adequate equipment and training. It all depends upon the community, its needs, and its limitations.

Insofar as equipment goes, it is usually possible to secure a light truck, which is equipped with lanterns, road blocks, hose bridges, etc., as well as rubber clothing and other fittings for the patrolmen. Drivers are assigned and a working plan drawn up for response



WHILE YOU'RE ALL HERE TOGETHER—

We want to extend our sincere greetings on the occasion of your annual *International Association of Fire Chiefs* convention for 1950. And while we're at it, we'd like to add our congratulations for your good work in the past year . . . and wish you even more success during the next.

Our special thanks to all of you who continue to rely on BUCKEYE Fire Department Accessories year after year. We intend making every possible effort to continue to deserve your high regard for the accessories bearing our BUCKEYE trade mark.

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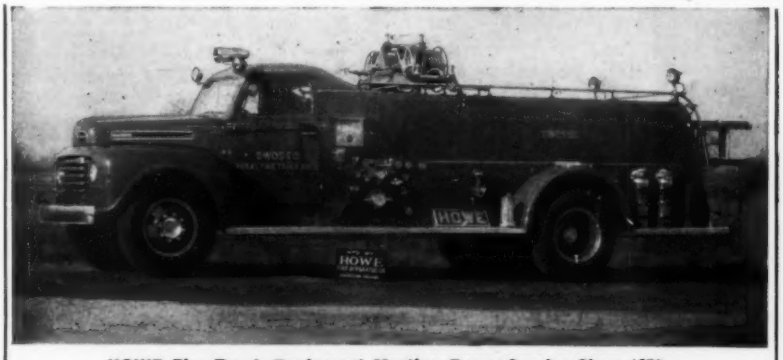

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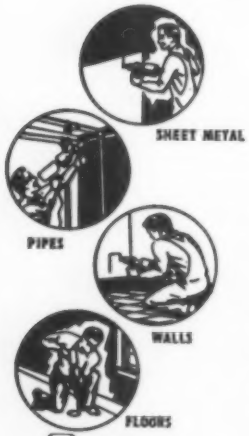

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The Mid-States Saw Gun can be powered by an electric drill, air drill or flexible shaft to *cut or file practically any material!* It is lightweight, easy to handle (has detachable finger-grip handle) and versatile in performance. Use it for cutting cardboard or a 36" steel beam—Ideal for cutting openings in walls or floors and for cutting pipes and metal.

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and operations. Duties should be assigned (whether first aid, ambulance and salvage work as well as patrol work) and officers elected or appointed by the department. This is, of course, in a volunteer organization. In a paid department it can be more thoroughly "regimented" and controlled.

Of course, the unit should have proper recognition by the department and receive liability compensation to protect members and apparatus against injury or damages.

Actually there is no limit to the work such a patrol can do. It can engage in fire prevention work, inspections, benefits, public relations promotion as well as traffic control, guarding property after fires, aiding police in missing persons search, etc.

Supply to a Sprinkler System

To the Editor:

A factory building, one story in height and about 60 feet by 600 feet is equipped with three sprinkler valves, each valve controlling about 95 heads (dry system), and with a static pressure of 42 pounds in the main.

1. Could an 8-inch main supply enough water?
2. Could hydrant in rear of plant attached to this main be used to fight fire?
3. Is there a formula to figure out just how much water is necessary to operate a sprinkler system of this kind?

J. J. K.

Answer: A total of 285 sprinkler heads are on the system in the plant described. Were all of the heads to be operating at one time, and the discharge from each was 30 gallons per minute, the total flow would be 8,550 gallons per minute, which would be far beyond the capacity of an 8-inch main.

But water supply to sprinkler systems is not intended to be of sufficient size to supply all heads on the system at one time. The principal function of a sprinkler system is to provide water at the point a fire starts, and thus, with the use of a few heads, control the fire at that point.

Thirty-five per cent of fires are extinguished by one sprinkler head. In only eight per cent of fires reported are more than twenty-five heads required for extinguishment.

Sprinkler systems are usually tested to give a minimum of 500 gallons per minute at residual pressures of 15 pounds at the highest head, for ordinary hazard occupancy.

For such a flow, the 8-inch supply line would be entirely satisfactory.

As to whether or not a fire engine could be used on the 8-inch main supplying the sprinkler systems depends entirely upon the length of this main to the feeder main. If of great length, there would be danger of reducing the pressure on the sprinkler system to a point where it would be ineffective. On the other hand, if the stretch of 8-inch main from the plant layout to the feeder main were of moderate or short length, then it would probably be safe to use a single pumper on the eight-inch main to augment the fire control effects of the

sprinkler system. It is very important that the sprinkler system be kept supplied under proper pressure. If the use of a fire engine on the main supplying the sprinkler system should result in a reduction of pressure in the sprinkler system to a point of ineffectiveness, then the pumper should not be employed. The sprinkler system will ordinarily do a good job in holding the fire until lines are relayed from hydrants on other mains than the one furnishing water to the sprinkler layout.

Extinguishing Tire Fires

To the Editor:

What is the best method of extinguishing fires in tires on pleasure cars, trucks, etc.?

Should these fires be classed as "A" fires or a combination of "A" and "B" fires?

J. V. S.

Answer: Water is considered the best agent for extinguishing rubber tire fires whether in storage in quantity or on vehicles. In the latter case, fog has proven effective, but it has to be continually applied until the material is brought down to a point below its re-ignition point.

If the fire has reached such a stage that the rubber is melting and flowing, then foam would be necessary to smother the fire.

At the start of the fire, rubber tires would be classed as "A" fires. However, when the rubber has melted, and is burning in the form of a liquid, then you have a Class "B" fire.

If your department is equipped with fog-foam, this would be ideal for handling fires involving considerable quantities of tires. The fog cools the burning materials down and the foam prevents reignition of any molten rubber which may be around.

Maximum Stretch

To the Editor:

The following problem appeared in a recent promotional examination:

An ordinary pumper operating at 250 pounds pressure can deliver a fairly good one-inch stream (30 pounds nozzle pressure and 162 gallons discharge) through a maximum stretch of: (A) 1,000 feet; (B) 1,500 feet; (C) 2,000 feet; (D) 3,000 feet; (E) 4,000 feet. My answer was (D); the fire department's was (A)

J. P. M.

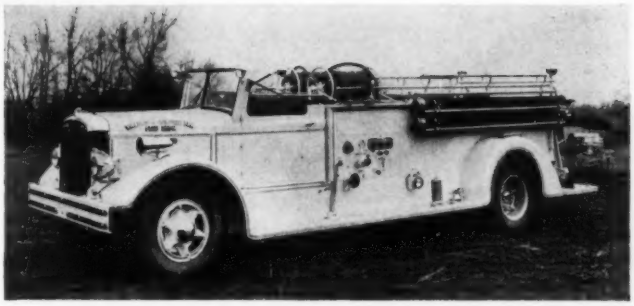
Answer: Actually the problem you give cannot be answered, for no hose diameter is specified.

If we assume that 2½-inch hose is used, then the length of line would be in the neighborhood of 3,450 feet in order to give 30 pounds nozzle pressure when the engine pressure is 250 pounds.

If a larger diameter than 2½-inch hose were employed, the length would still be greater.

Your answer, 3,000 feet comes nearest of the four answers given in the problem. Thus it should be considered as the right answer, if any one of them is so considered.

Another BOYER! ★ ★ ★ ★ ★



Boyer 600-gallon combination high pressure pumper, equipped with Hale 3-stage pump delivered to Colonie, N. Y. Meets Underwriters' requirements for capacity with pressure available on booster lines to 700 lbs.

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500-1250 Gallon Pumpers
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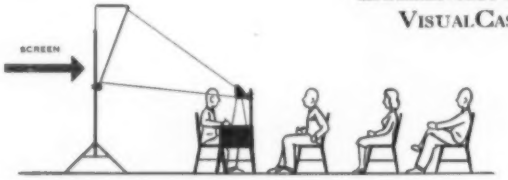

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Convention Dates

Aug. 22-25—IOWA SHORT COURSE FOR FIRE PREVENTION BUREAU PERSONNEL OF PAID FIRE DEPARTMENTS. Annual meeting, Iowa State College, Ames, Ia. Director, Robert C. Byrus, Fire Protection Engineer, Engineering Extension Service, Iowa State College, Ames, Ia.

Aug. 24-25—MINNESOTA FIRE CONFERENCE. Annual meeting, Nicollet Hotel, Minneapolis, Minn. Executive Director, Leonard C. Lund, Deputy Commissioner, Fire Marshal Division, Saint Paul 1, Minn.

Sept. 5-8—MARYLAND SHORT COURSE. Annual meeting, University of Maryland, College Park, Md. Director, Chief James W. Just, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 5-8—INTERNATIONAL ASSOCIATION OF FIREFIGHTERS. Annual meeting, Milwaukee, Wis. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington, D. C.

Sept. 5-8—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, Victoria, B. C. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 8-10—OHIO STATE FIREMEN'S ASSOCIATION. Annual meeting, Geneva-on-the-Lake, Ohio. Secretary, Dale Hogg, 1431 Parkview Road, Lyndhurst 24, Ohio.

Sept. 11—GREAT LAKES ASSOCIATION OF FIRE CHIEFS. Annual meeting, prior to I. A. F. C. meeting, in San Francisco, Cal. Secretary-Treasurer, Chief Charles A. Delaney, 1418 Warren Road, Lakewood 7, Ohio.

Sept. 11-13—FIRE SAFETY TRAINING CONFERENCE OF THE OHIO FIRE BRIGADE ASSOCIATION, INC. Annual meeting, University School Building, Ohio State University, Columbus, Ohio. Reservations should be sent to C. S. Kuskowski, Columbus Coated Fabrics Corporation, Seventh and Grant Avenues, Columbus 16, Ohio.

Sept. 11-15—VIRGINIA FIRE SCHOOL. Annual session, No. 9 Station, 115 Thole Street, Norfolk, Va. No enrollment or registration fees. Out of State firemen and visitors are invited. For more detailed information, write Fire Marshal Clay A. Easterly, Director, Box 1112, Martinville, Va.

Sept. 12-15—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS and PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, San Francisco, Cal. Secretary-Treasurer, I.A.F.C., Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Sept. 18-21—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Hotel Commodore, New York City. Secretary, Irvin Shulsinger, 11 West 42nd Street, New York 18, N. Y.

Sept. 19-20—IOWA FIREMEN'S ASSOCIATION. Annual convention and tournament, Council Bluffs, Ia. Secretary, Carl H. Fuchs, 2749 Kinsey Avenue, Des Moines 17, Ia.

Sept. 19-21—THE FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual meeting, Harrisburg, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 5-7—OHIO FIRE CHIEFS ASSOCIATION. Annual meeting, Youngstown, Ohio. Secretary-Treasurer, William H. Rosche, Assistant Chief, Canton Fire Department, Canton 2, Ohio.

Oct. 16-18—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Omaha, Neb. Secretary-Treasurer, Russell D. Salak, Schuyler, Neb.

Oct. 19-21—ILLINOIS FIREMEN'S ASSOCIATION. Annual meeting, Alton, Ill. Secretary, Chief Roy W. Alsip, Fire Headquarters, Champaign, Ill.

Oct. 28-29—NATIONAL FIREMEN'S ASSOCIATION. Second organizational meeting, Hotel William Penn, Pittsburgh, Pa. Secretary, Dale Hogg, 1431 Parkview Road, Lyndhurst 24, Ohio.

News of the Manufacturers

(*Continued from page* 641)

the company was Eureka horse-drawn hose wagon with its polished lanterns and bright red trim, fancy cut leather belts for the chiefs and portable fire escapes.

The company also sold twenty-inch brass trumpets through which chiefs called orders to their men—a far step from the electronic megaphones used by many present-day fire departments.

It was in 1906 that Eureka officially became a part of the U. S. Rubber organization.

There are many instances where it has rendered invaluable service to fire departments of U. S. cities and towns in emergencies.

During the great Baltimore fire of the early 1900's, an emergency order for 10,000 feet of a special type of knitted hose was received by Eureka. The problem was complicated by the fact that the couplings required a special Baltimore thread. Within three hours 5,000 feet of the order was fully coupled and ready for shipment. The balance of the order was ready a few hours later.

Another instance of emergency service occurred during an oil fire in Philadelphia when 5,000 feet of hose was on its way to the city within two hours after receipt of the order.

But Eureka likes to think of itself as 75 years young—not old. It wants to continue to grow and serve with the best fire departments in the world. All of them—big and small—that have made the United States the safest place on earth.

New Mack Ladder Truck

An aerial ladder with many novel features is now part of the standard equipment on Mack's new Golden Anniversary Model 85 fire truck.

New Mack Aerial Ladder

Specifications on the new truck were announced recently by F. W. Beardslee, vice president and manager of fire apparatus sales for Mack International Motor Truck Corporation.

"Many older type aerial ladders now in use," Mr. Beardslee said, "are mounted on platforms which have to be rotated by a hand crank. The Mack ladder is mounted on a specially built turntable which rotates on a drop-forged bearing containing two independent rows of large glass-hard balls. It is this ball bearing mount that makes the Mack ladder so easy to turn either manually or by power. The ladder can be fully extended to its 75-foot length in less than 60 seconds."

"The flexibility, safety, and efficiency of this ladder," Mr. Beardslee pointed

(*Continued on page 706*)

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CIRCUL-AIR is the patented, electrically operated HOSE DRYER which circulates pre-warmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It was designed to lengthen hose life; improve the appearance and functional design of new fire houses; and to save floor space and hard work. **NO OTHER METHOD is so fast—so easy to use—so economical. Dries Hose in a Few Hours. *No* Radiant Heat—Can't Injure Hose. Dries Fire Clothing, too. Is Ideal for Hose Storage. Keeps *All* Hose Ready for Service.**

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Powerful Naval Lens Unit for permanent or suction cup mounting.
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Out of our laboratories came the brilliant sealed beam and naval type red and blue lights for volunteer and fire department use, long life flashers and powerful but economical sealed beam flood and warning portable lanterns. Only the best is good enough for fire use.
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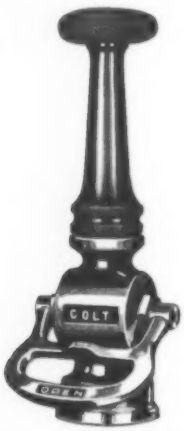

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Playpipes, Siamese—Plain or with Shut-Offs, Hydrant Gate Valves, 1", 1½", 2½" Quarter-Turn Shut-Off Single Valves, Water Thiefs. All types Brass Hose Connections.

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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Hail to Hector, Haslemere Fire Station Mascot!

Firemen the world over have their mascots, but it remained for the lads of Haslemere Fire Station (Surrey, England) to set a new fashion in this field.

Their mascot is a goose—named Hector, why deponent sayeth not. It is learned, however, that Hector has been with the Fire Laddies of that Station since 1941 and that he was originally intended as the piecé de resistance for a Christmas dinner. However, the boys became so attached to her (un huh-Hector is a "she") that they found a substitute for that feast, and have housed and pampered Hector ever since.

Hector fell in on parade each morning with the firemen and was eventually put on that unit's rolls. Now she answers regularly to her name.

The bird often takes a walk to Hight Street, to the amazement of motorists, who suddenly observe a large white goose in front of their cars. He—or she, is no less fascinating to pedestrians, none of whom, however, have thus far been able to abduct the smart Hector.

The mascot is now nine years old and, it should be added, is laying three to four eggs per week (as a sort of payment for board and bill?)

Thanks Fireman ROLAND E. LAMBERT
Surrey, England

* * *

Twarn't Gold in Them Thar Stumps!

Fort Pierce, Colo., firemen had their hands full, out there on King's Highway, recently. They tackled a hot grass fire, which fed on the dry grass, promoted by a brisk breeze.

On top of the fact that they had their hands full controlling the fire in the grass, something started going "boom," and then "boom" again. And then another "boom," and so on.

Well, Fort Pierce Brothers knew there was no parade in sight, and it was high time to check in on those "booms." Which they did—the explosions continuing, meantime.

After a while, according to Fire Chief R. M. Register, Bernardo Picos, who lives "out that a way" came up and said:

"If I was you boys, I'd be kinda careful around those stumps. Somebody loaded them with dynamite last year and never did set them off!"

From then on "the boys" were nothing if not careful around those stumps!

CHARLIE SHORTT

* * *

Paint Remover Almost "Removes" Painter—Permanently!

It's old stuff no doubt to most firemen, but it's worth repeating, just to provide the Brethren with factual data upon which to build their fire safety promotional messages.

In this incident, Nathan Bobis, Brooklyn, N. Y., painter is in "fair condition" in a Far Rockaway, L. I., hospital, following an explosion and fire that interrupted his paint scraping operations in a dwelling. He had been using a liquid paint remover—the fumes ignited (from what deponent saith not, but we can guess)—setting fire to Bobis's clothing, whereupon he fled, afire, from the house.

The ensuinng fire was knocked out quickly by Lawrence-Cedarhurst volunteers and, caused no great damage to the structure, but brother Bobis suffered severe leg and hand burns.

Next!

Thanks J. H. FAIRBROTHER

* * *

"Dutchess" Heeds Call— To Another Kind of Duty

At Engine 1, in New Britain, Conn., the bell hit recently for a fire. Members of the company, grabbing their coats and equipment, jumped to their places on the apparatus. But as the motor started, one position remained empty. Duchess wasn't there.

Dutchess, the Dalmation member of the company, turned around in her large box in the storeroom and looked over its top. Engines 1's mascot, after answering every alarm since she came there two years ago, wasn't riding to this fire. She had nine good reasons for staying home.

In a luxurious "maternity ward" prepared by members of the Company, Duchess had given birth to her first litter of puppies. Posted nearby were "Quiet Please" signs.

Nervous firemen led by Gordon Alling, paced the floor during their mascot's delivery. They had congratulated one another on the birth of each pup and had carefully recorded the time everyone came into the world.

The litter, which will provide most of New Britain's fire stations with traditional black and white spotted mascots, was whimpering as the pumper left the fire house; Duchess took only one look in the direction of the truck, then turned her attention to the job of feeding her family.

TOM MAGNER

* * *

Soused Ladder Climber Soaked $50

A side issue of a Buffalo two-alarm fire which claimed lives of a three-year-old child and a 73-year-old woman was the arrest by Police of one Clifford H. Moser, 27, and a 50-day jail sentence slapped on him by a City Judge for interference with firemen operating at the fire.

Mosher, who pleaded guilty to drunken and disorderly conduct and failing to obey police, climbed ladders in an effort to get into the burning apartment house on Ellicott St., according to Patrolman William J. Gallery, who arrested him after he refused to stay behind the fire lines.

The fire, during which Mosher attempted to emulate firemen, was investigated by the Buffalo Arson and Fire Prevention Bureau. Starting about 12:20 A.M. just inside the street entrance of the apartment, it shot up a stair well and when firemen arrived was flaring out of the street entrance and second and third floor windows. Members of Ladders 1 and 2 and neighborhood volunteers rescued many of the building's tenants, but the youngster and her grandmother were dead when

brought out. Buffalo's Fire Commissioner Becker ordered the investigation

* * *

Cincinnati Isn't Fooling!

Cincinnati is one of the large cities that has quit fooling around with the false alarm problem. According to contributor Pat Holz, they've stopped handing out fines to box-pullers who now must serve time in the workhouse! The first offender is given 90 days. Second offenders get 6 months and the third get one year and may be given an additional year as habitual offenders.

To illustrate: Samuel Wilburn, 19, of that city, learned the bitter truth when he admitted pulling a box at 1:30 A.M. one morning. He said he did so to get aid for Charles Davis who was bleeding from cuts on his left arm, wrist and chest as the result of a fracas with his,—Davis' wife.

In sentencing Wilburn to a month in the workhouse, Judge Handley said: "You could have walked a block away to the York Street Police Station for aid. Instead, you jeopardized the lives of some 30 firemen who responded to the alarm." The court also fined Mrs. Davis $50 and costs; and Davis, court costs.

* * *

Irving Wallen Johnson Contributes

ROCKY MOUNT, N. C.—Firemen are still suggesting diets for Fire Captain Vann Neal. Seems Neal jumped out of bed at the sound of the siren and was on his way down the pole in a jiffy. But he didn't complete the descent. Fellow firemen found Brother Neal wedged in the hole between the sleeping quarters and the apparatus room. It took 15 minutes to free him.

WOODSBORO, MD.—Augustine Wickless was struck by lightning while nursing a sick calf in his barn on a Wednesday night. The barn burned down. The calf was killed—but Wickless managed to stagger about 200 feet away. Doctors said he suffered severe shock but would live. Three years ago the 30-year-old farmer was struck by lightning while working in his barn. There oughta be a law!

OCEANSIDE, L. I.—Devillo D. Holmes, of Oceanside, was convicted of bookmaking in court but given a suspended sentence because of his heroic rescue as a volunteer fireman of an aged woman. Both judge and prosecutor also are volunteer firemen.

LONDON.—The press reports that Lloyd's has insured actor Monte Woolley's famous beard against destruction "by fire, theft, hail or tornado." The report said Harvard University took out the $5,000 policy on Woolley's wool while "the man who came to dinner" was making a personal appearance at Cambridge, Mass.

MINNEAPOLIS, MINN.—Two teen-agers confessed setting 16 fires. "We couldn't get odd jobs to pay our way to movies," said they "so we put on our own shows."

* * *

Brielle Test Blows Up in Firemen's Faces

Firemen of Brielle, N. J., made great plans to demonstrate the efficacy of some water-fog fighting equipment. The Brothers erected a frame building 8 x 8 x 10 ft. high in a lot near the R.R.

Whether it's for a small community or a large city — Alert Fire Chiefs

Specify HALE

Because Hale Fire Pumps are notable for:

- **Flexibility of performance, providing Volume *and* Pressure when needed**
- **Dependable Performance**
- **High Efficiency**

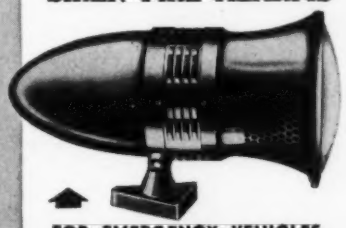
For valuable information on HALE Fire Pumps turn to PAGE 661. Write today for new circulars on Hale Fire Pumps — sold only thru manufacturers of Quality Apparatus.

HALE FIRE PUMP CO.
Conshohocken, Pa.

HALE FIRE PUMPS are built in all STANDARD CAPACITIES

STERLING SIRENS

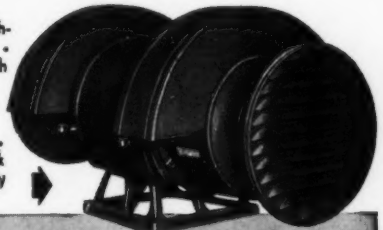
NOT BY CHANCE . . . First in Precision Manufacturing of High Grade SIREN FIRE ALARMS



STERLING, for years has combined highest quality materials with precision manufacturing to provide sirens that will operate reliably year after year without failure. There's a STERLING Siren for every emergency use.

FOR EMERGENCY VEHICLES
Model 20 SIRENLITE • Powerful Flashing Beam • Smooth Operation • Streamlined • Chromium Finish • Dependable Service

FOR VOLUNTEER FIRE ALARM SYSTEMS
Model M SIREN • Big • Rugged • Powerful • Dependable • Quick Accelerating • Highest Quality Material Used



Complete Line of Siren Equipment Available. Bulletin on Request.

THE STERLING SIREN FIRE ALARM CO., INC.
58 Allen St., Rochester 6, N. Y.

One-, two- and three-stage centrifugal pumpers and tankers combination high pressure fog and approved volume streams. Front and midship mounted pumps. Simplified operation. All heated pumps and reels. Convertible sliding reel covers. Side rewind of reels, modern in design.

QUALITY AND PRICE NOT TO BE EQUALED.
DEMONSTRATION ON REQUEST.

FIRE FIGHTER TRUCK COMPANY
ROCK ISLAND, ILLINOIS

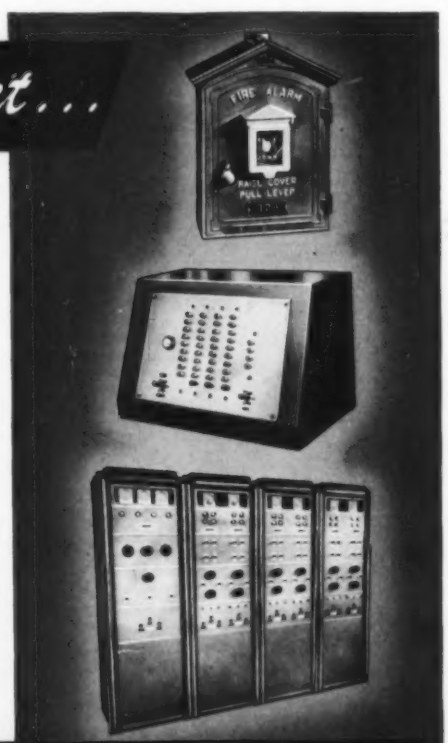
Don't Forget...

WE CAN SUPPLY ALL YOUR NEEDS

SĀFA

BE SAFER WITH SĀFA

Each unit of the complete SĀFA line of modern Fire Alarm systems are performance-engineered for each job. Trained service engineers are always ready to give instant in-the-field service. For save, dependable operation — Specify SĀFA. Write Dept. #25.



SUPERIOR AMERICAN FIRE ALARM & SIGNAL CO.
PLAINVILLE, CONNECTICUT

tracks. When everything was set at about 3:30 P.M., with all the fire fighters and about 150 spectators on hand, the shack was soused with oil and five quarts of gasoline.

At the appointed order, Fireman William Thiel, 35, struck a match and tossed it into a trail of gasoline leading to the shack. There was a terrific blast. The shack was demolished, pieces of timber flew through the air and a nail keg, which had been fixed to the roof of the structure, landed 100 feet away.

Thiel was knocked to the ground and burned on the right arm and left wrist. Fireman Harry Sauer, who was manning one of the new nozzles, was struck by a piece of timber. The unscheduled blast shook buildings and rattled windows over a wide area. Police Chief Legg drove Thiel to a doctor who treated him for second degree burns and sent him home. Sauer received first aid at the scene for superficial injuries. The demonstration ended. According to Chief Milton Gifford, no date has been set for another try-out.

* * *

Page Mr. Ripley!

Our peripatetic traveler-contributor, Jim Flynn, dug this out of the Gregory, So. Dak., press. It's about a fire extinguisher that proved the villain in a fire drama, which went something like this:

It seems that the Jewell Bros. hardware store in Dallas, So. Dak.—about four miles from Gregory, wherever that is—had a fire come a Tuesday. A pear-shaped glass fire extinguisher had been sitting in the corner of a show case for several weeks. The sun happened to strike it just right and focussed the heat rays onto a paper box sitting next to it.

Un hunh—you guessed it—the paper box took off and there was a fire. Fortunately, it was quickly discovered and no great property damage was done. The store proprietor, however, suffered considerable mental damage. "You can't trust nuthin' these days!—not even fire extinguishers!," sezze.

* * *

Boy Scouts' Jamboree Well Protected

Virtually every volunteer fire company in Delaware, Chester and Montgomery Counties, Penn., were included in a well-coordinated fire fighting pool to protect the 50,000 Boy Scouts at their National Jamboree at Valley Forge, last June.

Under the leadership of Edwin A. Robb, vice president of the State Fire Chiefs' Association and plant protection head for E. I. du Pont de Nemours Co., Philadelphia, the 2,300-acre Shrine and visitors were "covered" by Volunteer and Paid fire fighters, Police and other agencies. State Police, with the aid of volunteer fire chiefs throughout the area, employed two-way radio, self-sustaining booster equipped pumpers carrying over 500 gallons of water, and especially blocked off roads to facilitate passage of apparatus to any part of the park in minutes.

A major contribution to the fire safety program was the special detail from the Philadelphia Fire Bureau under Deputy Chief John Loughlin. In his command was a 2,400-gallon flushing tank with turret mounted sprinklers.

One fire station high atop a hill was the nerve center of the fire force. Two other stations were established at Port Kennedy railroad station and at Ar-

tillery Park. Each company supplied six men and one piece of apparatus for an eight-hour shift. First to participate were from Paoli and Spring City.

The honor of responding to the first fire with specially detailed State Police motorcycle officers fell to the Paoli Volunteer Fire Company under Chief John Bullock. A fire warden had spotted smoke across a valley and the Paoli vamps responded, to find a dump fire in a sludge pit.

Other fire companies joining in the program were: Broomall, Swedeland, Phoenixville, Malvern, Mont Clare, Lower Providence, Valley Forge, Oaks, Bridgeport 1, Phoenixville 1, Swedesburg, Bridgeport 2, Berwyn, Lenni Heights, Hancock, Plymouth, Darby 1 and Springmill. Also Brandywine, Lansdowne, Penn Square, Pomeroy, Colwyn, Trappe, Bethel Township, Concordville, Harmonville, Collegeville, Alert of Doylestown; North Wales, Ridley Park, Conshohocken, Misquas, Barren Hill, Washington of Coatsville, and Viscose of Marcus Hook.

EDWARD H. SPRANGERS.

* * *

Busy Bees Besiege Brooklyn Brothers

Brooklyn, home of "Dem Bums," had bee trouble t'other day. It started when a swarm besieged the home of Mr. and Mrs. Michael O'Brien, and so far as the fire department is concerned, the problem isn't solved yet.

When Ma O'Brien found herself and family of 11 children imprisoned by bees covering doorways, she called the police. The police referred her to the Park Department, which passed the buck to the Fire Department (strictly the normal procedure, of course!) and the latter sent Fireman Arthur Lih, 46, who was, by way of "beeing," a one-time bee keeper in Norway.

Fireman Lih managed to corral most of the bees into cartons, and brother firemen used hose streams to scatter the rest of the insects. The cartons were taken back to the Prospect Ave., Brooklyn, firehouse. And there the matter should have rested. But no—

Before long, the hymenopterous insects were slipping out through the cracks in the cartons, and bluecoats were slipping out of the fire station in all directions.

Finally the harried Brothers called police, who referred them to the Park Department. Who referred them—but finish it yourself!

[Thanks to the many who sent this item.]

* * *

The Tables Turned?

Over in the City of Brotherly Love, there's a chap who works at the City Hall and who time and time again has tried to make the fire department. Because of faulty eyesight, however, he's always been turned down.

Came a day recently when a small blaze broke out in a waste chute in City Hall. Whereup there was much ado and dashing about. A hose line was being run along a corridor of the building and the hero (?) of this yarn was standing there.

"Grab that hose—give us a hand!" shouted a fireman.

"What hose? I don't see any hose," replied the man who had been turned down so often by the fire department. The score was even—or was it?

THANKS IRVING JOHNSON

FIREMEN IDENTIFICATION

Three dimensional silhouette style identification plates as ILLUSTRATED above, made of a plastic especially adapted for outdoor use, white base, lettering in FIRE DEPARTMENT RED.

Wording under fire department, CHIEF—ASSISTANT CHIEF—CAPTAIN—LIEUTENANT—VOLUNTEER—MEMBER and POLICE. Priced at 50¢ each.

Get the name of your town, township, association, club, etc., on these plates made special for you, 50 @ $35.00, 100 @ $50.00, larger numbers lower priced. Officers named from stocked plates, or special cut inverted letters, SAME MATERIAL, LIMIT 15 LETTERS; 1 @ $2.15, 2 to 4 @ $2.00, 5 to 12 @ $1.80, 13 and over @ $1.50.

Lots of 50 or 100 made with name of town, etc., on top or (vice versa) can be fastened onto license plate, cemented on to car or used on sun visor. Size 9½ long x 2 inches wide.

Price furnished for industrial plates, automobile dealers, schools, special occasions or special designs.

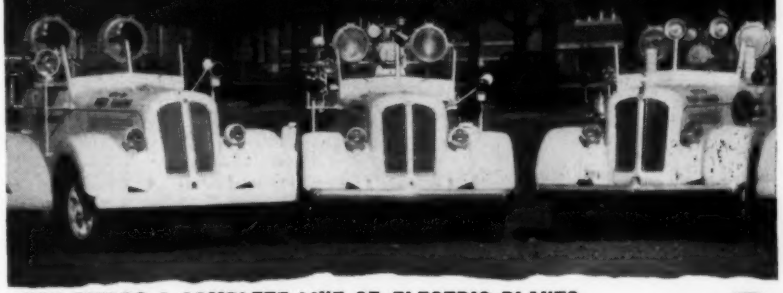
Plates do not rattle nor rust, render good plain identification at all times.

To order; specify kind and number wanted, enclose check with order, or, if preferred, order will be shipped C.O.D., shipping charge added.

E. B. LANE *Distributor*
32 GREENWOOD AVENUE
TOLEDO 5, OHIO

UNITED STATES MOTORS CORPORATION
U.S
OSHKOSH, WISCONSIN

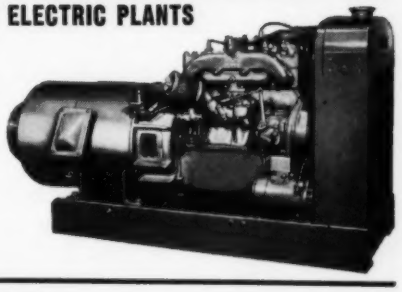
...can throw light on your problems, too!



"US" BUILDS A COMPLETE LINE OF ELECTRIC PLANTS

"US" Portable Electric Plants furnish power for the searchlights on these New Haven fire trucks serving in the center of Connecticut's industries.

"US" units are famous for economy of operation, accessibility, rugged construction, and above all—**dependability.** Complete line includes units from ½ to 200 KW. Write for information.

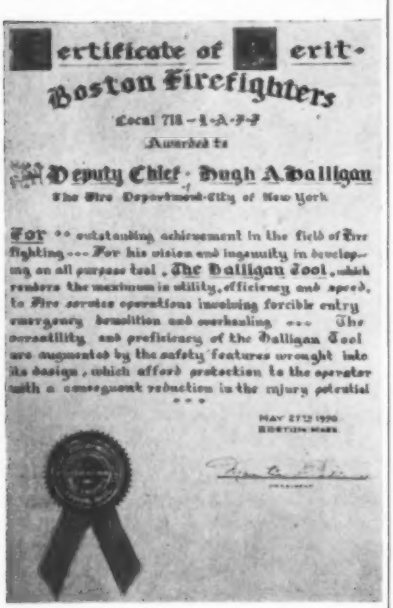


UNITED STATES MOTORS CORP.
430 Nebraska Street, Oshkosh, Wis.

HALLIGAN TOOL

10 tools in one

HONORED AGAIN!


Certificate of Merit
Boston Firefighters
Local 718 - I-A-F-F
Awarded to
Deputy Chief - Hugh A. Halligan
The Fire Department-City of New York
For outstanding achievement in the field of fire fighting --- For his vision and ingenuity in developing an all purpose tool, The Halligan Tool, which renders the maximum in utility, efficiency and speed, to fire service operations involving forcible entry emergency breakin and overhauling --- The versatility and proficiency of the Halligan Tool are augmented by the safety features wrought into its design, which afford protection to the operator with a consequent reduction in the injury potential
MAY 27TH 1950

NO WONDER FIRE FIGHTERS RAVE ABOUT IT—*IT'S THE FASTEST FORCIBLE ENTRY TOOL EVER*—

DON'T BE WITHOUT ONE

- Invented by Deputy Chief Hugh A. Halligan, over 21 years a chief officer, New York City Fire Department. Every Police Car, all Fire Trucks, Air Liners, Railroads, Emergency Cars, Ships, etc., should carry the HALLIGAN TOOL.

BOSTON, MASS.—
"A 100% 'Halligan Tool' city."

KEARNY, N. J.—
"Finest implement in the fire-service."

SYRACUSE, N. Y.
"Wouldn't be without it."

- Do your men a favor, Chief—order and try one of these new, proven emergency tools. They'll do more than any 10 tools you can buy today.

***Specify* HALLIGAN TOOL**

HALLIGAN TOOL CO.

1505 Metropolitan Ave., N. Y. 62, N. Y.

Short Cuts and Gadgets

BRITISH FIRE FIGHTING TRAINS SPEED SPECIAL EQUIPMENT

It is said by "Popular Mechanics" that within five minutes after receiving an alarm, special fire fighting trains maintained by the British Railways can be speeding to the fire or other emergency call at 60 miles an hour.

Organized to provide defense against fires along the right-of-way, the special trains carry 8,500 gallons of water, a supply of foam extinguishers, "miles of fire hose" portable pumps and rations for the crew. The trains, manned by specially trained crews, are painted bright red and are stationed at strategic spots along the rail roads.

Illustrations of the British trains show that trailer pumps can be loaded and unloaded through the ends of the short coaches or freight cars of the trains by means of metal ramps which are let down from the platform of the car to the ground.

Many railroads in this country also have special fire fighting units, usually a combination of water-carrier (such as an old tender or tanker) and steam driven water pump, which are pulled or pushed by a locomotive. Some have complete "fire trains" which operate much as do the wrecking trains maintained by all rail roads. If war ever does come to this nation, these units may be in demand.

* * *

TO FACILITATE USE OF INHALATOR ON HOSPITAL COT OR STRETCHER

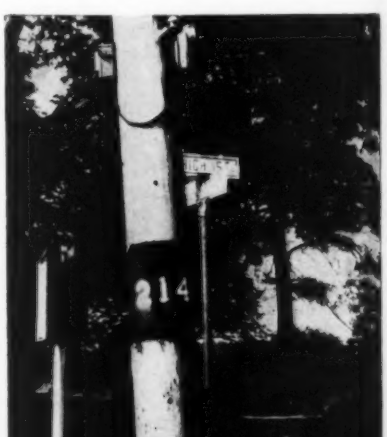
Very often a victim of fire, smoke, electrical shock, or other known causes while being removed on an ambulance cot requires mechanically applied oxygen. This is not an easy operation as it requires extra men to carry the inhalator alongside the cot. An aid to this problem appears simple, although it can not be applied to all departments as ambulance cots vary in size, but in many cases the cot is of standard size and this item will work. The idea is to make a frame of 1-inch piping, with three straps laid across to carry the inhalator. On each end of the frame two "quick snaps" should be attached to allow the frame to be hooked on to the cot underneath the bed. This will allow the inhalator, less case, to ride underneath the victim. With the use of a head strap, the patient can be equipped with the facepiece assembly receiving oxygen as he or she is carried to and from the ambulance or rescue squad. Thus the only personnel required will be those needed to carry the cot itself. CAUTION: A check should be made from time to time of the control valves and of the fit of the facepiece.

FRANCIS BURKE

* * *

IDENTIFYING "PHANTOM BOXES"

Many small communities—and some not-so-small, use the so-called "Phantom" or "Dummy" box system whereby box numbers are given to various street intersections and other locations so that in the event of an alarm of fire being phoned in from the vicinity of one of the locations, the box number is sounded on a whistle, horn or bell, thus enabling firemen to respond directly to the scene.



"Phantom" Box in the Town of Acton, Mass. In the Thickly Settled Parts of the Town, These "Phantoms" Are Being Progressively Replaced with Regulation Fire Alarm Telegraph Boxes.

Some users of this system have found further advantage gained by painting the box number on a red band on a utility pole at these locations. With the numbers constantly visible, it helps the volunteers to memorize box locations and also encourages the public to know and give the box number when telephoning an alarm. Further, it provides a

FIG. No. 1.

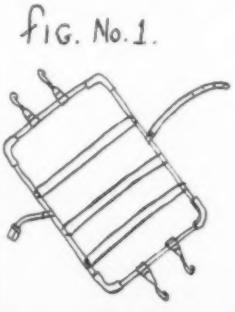
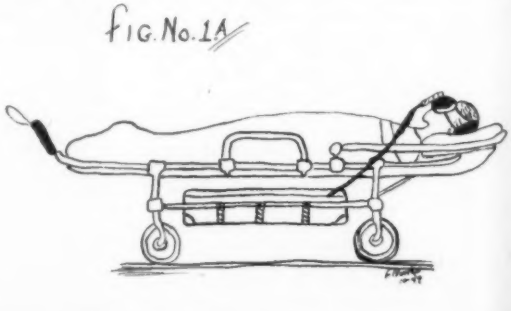


FIG. No. 1A



definite point where a citizen may await the arrival of a fire department in order to give firemen more specific information. Likewise, a member of the fire department may be stationed at the "phantom" box to contact additional incoming fire forces and advise them what procedure to take. HENRY T. HANSON

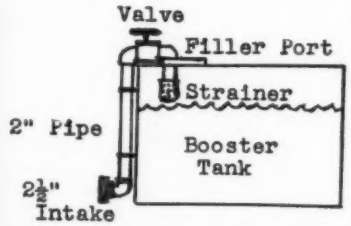
EDITOR' NOTE: *Utility companies are usually very willing to perimt their poles to be used for this purpose. Naturally, they should be consulted and their permission secured before doing any painting.*

* * *

PRESCRIPTION FOR BETTER RELAYS

Many rural fires require the use of long relays, or the operation of portable booster pumps, in order to make use of available water supplies. When such is the case, the discharge hose from one pump is usually connected directly to the suction intake of the second pump. This limits the work which the second pump can do, since a negative pressure would collapse the supply line.

BOOSTER TANK RELAY ASSEMBLY



Some companies utilize their booster tanks as reservoirs in relaying, but it is a cumbersome job to hold a 2½-in. supply line in the filler opening and avoid overflowing the tank.

Here is a diagram of a simple device submitted by Winston Gress, Dayton, Ohio, which this contributor claims can be utilized to alleviate the beforementioned difficulties.

The device consists of a 2-in. pipe with a 2½-in. female intake near the side running board. This pipe has its discharge opening fitted into the booster tank filler port. A strainer is attached, and a shut-off valve is provided to prevent overflow.

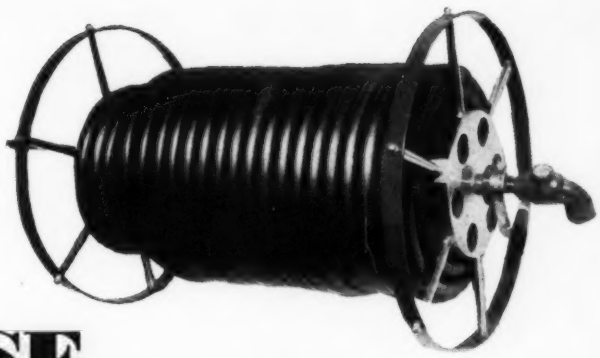
When using this device, it is merely necessary to connect the supply line to the 2½-in. female intake. When the supply line is charged, the valve can be opened to keep the tank filled. The pump can be operated at whatever pressure is desired, and a large stream (as well as the smaller ones) can be operated intermittently, depending on the rate of flow from the supply pump and the volume of water which the tank holds.

Thank you, Brother Gress!

* * *

The Old Timer Says—

"You still see apparatus of paid departments goin' through the streets with only a driver on the rig. Seems t' me, all things considered, it's better to get a few pieces to the fire with at least workin' crews, than to get more units there without sufficient men t'put'em to work. I'd do like a lot of smart chiefs, and lay up these 'one-man' companies and try to keep my other outfits up to full strength—until such time's I could convince my 'city dads' of the need for 'full crews, full time.'"



F.A.E. CORP.

HOSE REELS In any size or hose capacity—800 lbs. pressure

Primarily for high pressure fog lines. Made with bronze hubs and trunions, chrome plated finish. The contracting drum is made with steel channels, oak fillers so as not to injure the hose. Has swivel connection, requiring no packing. Steel tube, axle mounting. Completely free waterways. Can be made in any capacity with or without hose to meet your requirements for either old or new engine. Free running electric rewind can be furnished on any reel. Manufactured by a reputable manufacturer of Fire Apparatus.

All or any part of hose may be reeled off as required from the drum when in use because the contracting drum in water-ways will not restrict the flow up to 800 lbs. pressure.

If you want the best on your new apparatus specify FAE reels. May we bid on your requirements?

FAE CORPORATION, CLAYTON, N. Y.

The DUAL Fire Fighter

GORMAN RUPP PUMPS

QUICKLY

RELAYS WATER TO THE TRUCK PUMPER - -

Fills vital need as a booster pump. Will relay 175 g. p. m. through 300 feet of 2½ inch hose to the top of a hill 50 feet high. Supplies truck pumper with sufficient water to operate two ½ inch nozzles at 100 pounds pressure.

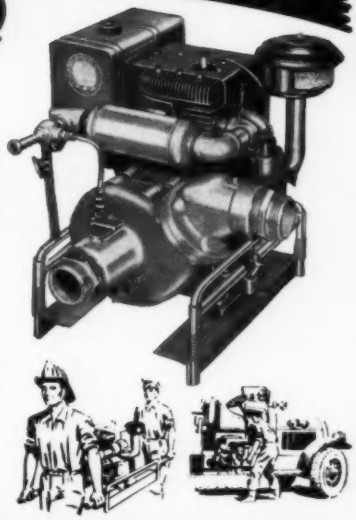
FIGHTS FIRES DIRECT - -

If the truck pumper is unavailable or is impracticable to reach the fire. Will throw 100 gallons at 80 pounds or 80 gallons at 88 pounds pressure. Capacity sufficient to supply two 1½ inch lines.

EASILY PORTABLE - -

Quickly and easily carried by two men. Weighs only 162 pounds. In 15 to 30 seconds water starts flowing through the lines. Gets the water to the fire *quickly*.

Write for Bulletin No. 9-FD-11



The "Dual Fire Fighter" requires very little space on the pumper. Pump is integral with 4 cycle, single cylinder, air cooled B & S engine of 8¼ HP. Every pump is factory tested.

THE GORMAN-RUPP COMPANY

MANSFIELD, OHIO

WHEAT *FIREMAN'S* SPOTLIGHT

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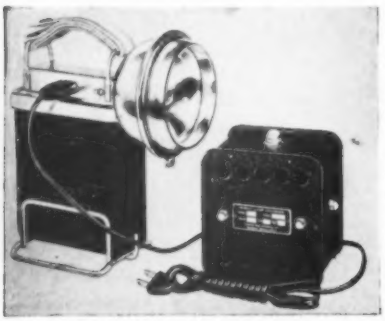

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25,000 CANDLE POWER
1,500 HOURS OPERATION

Based on Regular Daily Use

Wheat Spotlight Saves first	3 months	$2.78
" " " Next	6 months	70.80
" " " Next	12 months	128.40
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For information how EACH WHEAT SPOTLIGHT can save you up to 40c per day.

Consult your Dealer or write

KOEHLER MFG. COMPANY

MARLBORO, MASS., U. S. A.

When ordering request new
WHEAT CHARGE INDICATOR

Audio "P-E-M"* puts *Power* in the *Voice of Authority!*

*"P-E-M"—PORTABLE ELECTRIC MEGAPHONE—it amplifies the voice 2500 times!

Each year lives are lost because of failure to hear commands. But with Audio Portable Electric Megaphones (Audio P-E-M) the voice is amplified 2500 times! Orders are heard with clarity, obeyed with precision and lives are saved!

Audio Portable Electric Microphones enable fire chiefs to direct men at fires, even in smoke-filled rooms, guide rescue workers, assist on the training grounds, giving instant warnings of grave dangers which otherwise cannot be heard in time to get people to safety.

Write for Latest Literature and New Low Prices

80-20 - 45th Avenue, Elmhurst, L. I.

AUDIO EQUIPMENT CO.

News of the Manufacturers

(*Continued from page 699*)

out, "should help minimize the hazards that firemen face in fighting blazes on upper floors."

The Mack chassis on which the ladder body is built, is powered by a 213-horsepower, 6-cylinder Mack fire apparatus gasoline engine of 707 cu. in. displacement. The truck has a wheel base of 240 inches, and a standard Mack semi-cab with a "V" windshield.

The ladder itself is constructed of steel, the main girders of which are in the form of a double webbed I-beam. Box-type cross members give the ladder maximum lateral stability.

The ladder is raised from its nested horizontal position by means of two hydraulic cylinders. A fireman operating the ladder controls the oil pressure. A cable-and-sheave arrangement extends the ladder to its full length in one continuous motion. When fully extended in a horizontal position, the ladder will support the weight of a 250-pound man standing on the end.

Another advantage to the ladder, Mack claims, is that the fireman who operates the ladder can see every working part of the turntable power plant, which is located at the base of the ladder.

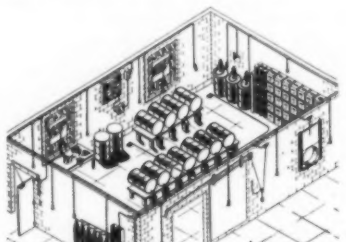
The Mack 85 truck is also constructed so that the steadying jacks, which are lowered to give the truck stability when the ladder is raised, are an integral part of the chassis. No cumbersome outrigger booms are required.

Akron to Operate Fog Nozzle Co.

Fog Nozzle, Intl., of California, has been dissolved, and will be operated as a division of Akron Brass Mfg. Co., Wooster, Ohio. E. W. Prout, now at Wooster, is Superintendent of Akron Brass Mfg. Co. and Fog Nozzle, Intl.

New System for Control of Class "B" and "C" Fires

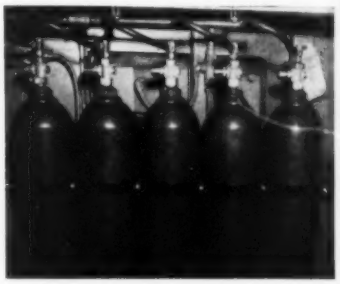
American-LaFrance-Foamite Corporation of Elmira, N. Y., has announced a new carbon dioxide fire extinguishing system for the protection of Class B and C risks, and for Class A risks in closed vaults or other similar storage type rooms. It is adaptable also for the fire protection of Diesel Locomotives which include both B and C hazards.



Showing Installation of New Alfco System to Protect Inflammable Liquids

It is designed for both Class B and C risks where total flooding with carbon dioxide gas is essential.

It has many desirable advantages. It can readily be adapted to meet whatever needs a risk may require. The battery and operating equipment can be located at, adjacent to, or remote from a risk.



Number of Cylinders of Carbon Dioxide Gas in Installation May Be Varied to Size of Hazard to Be Protected

Additional cylinders may be added at any time. The release system may be automatic or manual, or both. It is easily installed, and functions with comparatively few parts. Flexible connections between the cylinders facilitate installing, weighing or removing cylinders for recharging or rep'acement.

New Goodrich Coupling Catalog

A new 12-page catalog section on the hose couplings and fittings of various types which it markets has been published by The B. F. Goodrich Company, Akron, Ohio. Copies may be obtained upon request.

The catalog section pictures and gives details on each type coupling and fitting, together with specifications, general and maximum pressure recommendations and a description of threads. The products include the following:

Common couplings, short and long shank; combination nipples, special suction hose couplings, including the quick action type, interlocking high pressure couplings; hydraulic hose couplings and hose adapter unions; Permalock couplings; garden hose couplings; Flexseal hose joint; Bar-Way reattachable; fire hose couplings; pipe, inserted, built-on and scored nipples, flanges, hose clamps and hose menders.

New M-S-A Demand Mask Bulletin

The M-S-A Demand Mask, for dependable 30-minute respiratory protection in toxic or oxygen deficient atmospheres, is described in a new 4-page bulletin (No. B-20) published by Mine Safety Appliances Company.

The new bulletin contains complete details on the design and operation of this self-contained breathing apparatus which is U. S. Bureau of Mines Approved for breathing-safety in gases, smoke, or oxygen deficient atmospheres. For fire fighting and industrial emergenices, the M-S-A Demand Mask provides the wearer with a full half-hour of oxygen or pure compressed air, supplied automatically according to his individual breathing needs. The Demand Mask, complete with oxygen or air cylinder, weighs only 32 lbs., allows complete freedom of movement and unobscured vision.

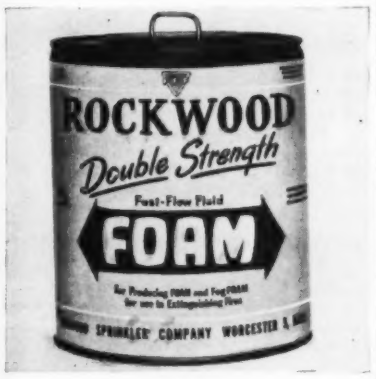
Also described in the new M-S-A

Bulletin B-20 is the M-S-A Front-Type Demand Mask which is carried on the wearer's chest, providing respiratory protection for 8 to 10 minutes. Both the standard and Front-Type Demand Masks may be equipped with an M-S-A Cleartone Speaking Diaphragm (included in Bulletin B-20) which permits unrestricted verbal communication and use of telephones.

Copies of the new M-S-A Demand Mask Bulletin No. B-20 may be obtained from Mine Safety Appliances Company, Braddock, Thomas and Meade Streets, Pittsburgh 8, Pennsylvania.

New Rockwood Foam Liquid

Rockwood Sprinkler Co., Worcester, Mass., has announced a new type of foam liquid — Rockwood "Double Strength" fast-flow fluid foam. This new type foam extinguishes fires in gasoline and other similar flammable liquids faster and more economically then old type liquid or chemical powder foam,



Container of Rockwood's New Liquid Foam

according to the manufacturer. It is more fluid, faster spreading and will flow at subzero temperatures.

Where proper proportioning is provided, the new Rockwood "Double Strength" foam liquid can be used with the latest types of fog-foam and foam nozzles in hose lines or fixed piping systems. Rockwood foam requires less space for storage and shipping.

New Indian Backfiring Drip Torch

A backfiring torch, designed to meet the needs of foresters and fire departments, as well as highway and public utility maintenance crews, contractors, ranchers, cattlemen, farmers, timbermen, railroads, etc. has been announced by D. B. Smith and Company, Utica, N. Y.

The torch incorporates features that experienced foresters and firemen have found essential to do the job quickly, easily, thoroughly. It was developed after much experimental work in the field with foresters and other fire fighting authorities.

Specifications include: seal tight handy filler cap, for quick, easy filling; 1 gallon fuel tank; brass feed pipe enabling operator to ignite materials with ease at ground level; all working parts easily removed for cleaning; brass leakless shut-off at tank end; equipped with large, strong, carrying handle; air inlet valve to allow even liquid flow at nozzle end; brass wick holder strongly brazed to

Janesville LEADS THE WAY

ALL JANESVILLE Coats are available with Scotchlite reflective trim. The Scotchlite stripes retain their reflective quality indefinitely and provide an unsurpassed safety feature.

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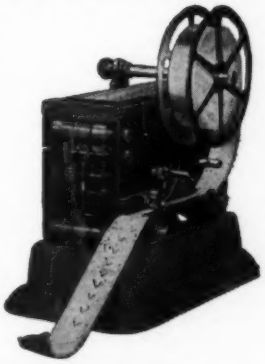
JANESVILLE, WISCONSIN

HARRINGTON PR-10
PUNCHED TAPE REGISTER



For Accurate Fire Alarm Records

This punched tape register automatically records fire alarms or other emergency signals as they are transmitted through central fire alarm stations, outlying fire stations, police department offices, water works, etc., circuits.

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WHERE YOU NEED IT!

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Portable
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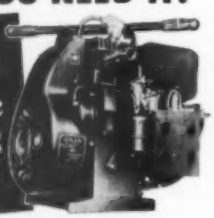

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Lightweight and compact, Onan Electric Plants can be hurried to the spot where needed. Supply current for floodlights, electric saws, drills and other tools. Always ready for instant use.

FIT INTO SMALL SPACE
Compact, self-contained Onan Electric plants can be ordered as standard equipment with many makes of new fire trucks. Just a few square inches of mounting space required for installation on old trucks.

Write for FREE Folder!

New folder shows many lightweight models for fire department use. D.C.: 1200 to 5,000 watts. A.C.: 350 to 3,000 watts. Large plants for emergency operation of signal systems to 35,000 watts.

Onan
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5673 Royalston Ave., Minneapolis 5, Minn.

feed pipe, so that wick is properly saturated with fuel at all times, when needed.

Gorham-Rupp Makes Appointments

J. C. Gorman, President of The Gorman-Rupp Company, Mansfield, Ohio, recently announced the establishment of a new department within the company specializing in the development of small centrifugal pumps.

Horace Montgomery

Edward M. Smith

At the same time, Mr. Gorman announced the apointment of Edward M. Smith as Hydraulic Engineer and Horace M. Montgomery as Project Engineer for the new department. Mr. Smith was formerly Chief Engineer of the Pump Division of Barnes Manufacturing Company and Mr. Montgomery was formerly New Products Engineer of the Pump Division at Barnes.

New Light Weight Coupling

The Elkhart Brass Manufacturing Co., Inc., Elkhart, Ind., has announced a new fire hose coupling of brass alloy (noncorrosive) which has about half the weight of the standard brass hose coupling. The manufacturer also states that it has "twice the strength of brass couplings in service today." This new coupling, which is known as the Elkhart "X-Trude" Coupling is processed by extrusion, instead of casting.

The Fire Safe Home

An average of 30 Americans die in fires every 24 hours, a large percentage of them in home fires, warns the National Board of Fire Underwriters, which has just issued a new booklet "to help Americans keep this ever-present threat of fire from their homes."

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& TRAFFIC CONTROL
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LONG-LASTING!

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That's why experienced firefighters have preferred *Hewitt Fire Hose* for over 75 years!

They know it is light and flexible for fast action . . . yet rugged for long life. They know, too, that its quality construction minimizes elongation and twisting . . . assures high burst-resistance.

Learn how *Hewitt Fire Hose* can help you. Write today.

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And Now . . . a

New Catalog

Front page news for all Fire Chiefs assembled in Convention.

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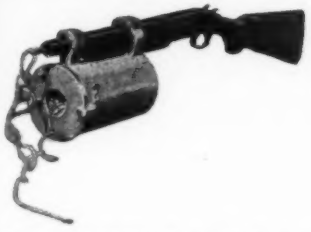
Before You Buy—Check It in Our

DEPT. F-E.
NEW FREE CATALOG.

FIRE-END PRODUCTS
19-21 Beekman St., New York

No RESCUE or LADDER TRUCK is Completely Equipped—without a

"BRIDGER" LIFE GUN



The "Bridger" Life Gun will shoot a line up to 250 ft. with heavy line or 600 ft. with light line.

We handle a complete stock of line gun supplies, projectiles, linen or nylon lines, cartridges in light, medium or heavy loads.

Fully approved by U. S. Coast Guard.

Write for our interesting booklet.
Place your order through your Dealer.

NAVAL COMPANY
DOYLESTOWN PA.

The organization predicted that fires would break out in about 1,100 American homes during a 24 hour period, and emphasized that most of the fires could be prevented by following a few simple precautions.

The new 16-page, illustrated booklet entitled "The Fire Safe Home" takes home owners on a tour of the house in search of common fire hazards. It points out the conditions most likely to cause a blaze in each part of the house, and offers specific advice on means of eliminating these hazards.

Topping the list of fire causes in the United States is careless handling of cigarettes and matches, the booklet says, with one out of every three fires traced to this cause.

The booklet also takes up such potential fire hazards as the television set, and explains how careful attention to safety features by manufacturers and pre-testing of sets by Underwriters' Laboratories, Inc., have helped eliminate most of the fire and shock hazards connected with television.

Copies of the new booklet, which replaces another booklet of the same title, can be obtained free from the National Board of Fire Underwriters, 85 John Street, New York City.

Fire Traps With Ivy

(*Continued from page* 617)

A team entering a room might decide to attack the wooden ceiling with pikes only to find that the floor was beginning to blaze at their feet.

Haven Hall had originally been a frame building with wooden joists and ceilings. In later years, a stone and brick veneer had been wrapped around it, creating a near-perfect "chimney" for the flames. The blaze travelled inside the walls, it worked its way into the space between floors where pressure streams alone could not break through to it, and it swept along partitions, lecture platforms and corridors. Even when the men could hold back the fire at one spot, they would find it undermining them from the floor below.

Fireman John R. Williams and William Hellner brought the nozzle of a 2½-inch line into one of these rooms on the third floor. There was fire on three sides. The ceiling was blazing and the floor was catching fast. Suddenly their footing went out from under them, the floor groaned, pitched, and broke downwards with a roar.

Still gripping the hose, Williams and Hellner skidded toward the opening. A sea of flame splashed upward from a second floor corridor.

Outside, linemen struggled to haul back the hose. Inch by inch, Williams and Hellener came back up with it. By hanging on to the nozzle, they had saved themselves from almost certain injury.

When he learned about this close call, Chief Zahn decided to abandon the third floor entirely and try to check the fire on the second. Except for the aerial setup, all hose lines retreated to ground-level or to the second-floor fire escape landings.

Just then someone discovered a University professor had slipped up to the third floor. A fireman went after him. He discovered the professor gathering

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UNIFORM CAPS
Union Made Prompt Delivery

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Regulation 8-comb style, with standard front; made of FLINT-FLEX, the rugged plastic that is light, tough, flexible and non-conducting; has the new FORM-ABLE HEAD BAND that can be moulded to your own particular head shape; complete protection at moderate cost.

Write for Catalog 331

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114 Years in Fire Service

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We can help your department win that "Best Dressed" award.

The following letter speaks for itself:

"The Silver City Fire Department won First Prize at the 1949 New Mexico State Firemen's Association Convention for being the Best Dressed Fire Department in the state; we were wearing Russell Uniforms."

(F. E. Boren, Chief, Fire Dept., Silver City, N. M.)

Write for our catalog No. G-60, samples of materials, and measurement form.

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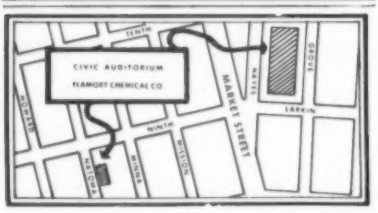

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notebooks inside a burning office, and ordered him out immediately. Moments later the roof crashed down and the office vanished—forever.

Events like this had been happening all afternoon. The element of luck was being strained to the breaking point.

Faulty Hydrant

The luck ran out at 6:30.

The fight had been under way an hour and a half. Chief Zahn had seen the first encouraging signs of progress: Windows on the second and third floors still framed solid blocks of fire, smoke still poured skyward in a swirling thick column, gutters and cornices were falling like ticker tape in a New York celebration, and there was no hint that the fire could be controlled.

But there was hope: The fire had weakened noticeably in the south wing!

Then the clutch suddenly burned out on a 1000 GPM pumper; three lines went dead; much needed lines. And the fire took advantage of it.

There was a 1917 model 750 GPM pumper still in reserve at the station house. Zahn radioed down immediately and this veteran of Ann Arbor fires come rattling out. It tapped the same hydrant the crippled pumper had used. After one hour's service, the veteran also burned a clutch and dropped out of action.

Too late, firemen determined that the hydrant's steamer connection was faulty. It produced a fluctuating water supply which had caused the pumps to race periodically; the strain had burned out the clutches on two pumpers.

Night fell shortly after eight o'clock. Artificial lighting was amply provided by six 500-watt floodlights. These operated in pairs from one 2-thousand and two 1800-watt gasoline-driven generators. Except for the three hose lines that had gone out when the second pumper broke down, the fight continued without let-up.

By 9 p.m. the fire was well enough under control so that one of the remaining pumpers could be taken off. The blaze had been checked on the second floor of the south wing. The center of Heaven Hall was completely gutted, and the fire had reached some but not all of the first floor in the north wing.

The men from the off-shift were relieved from duty so they would be able to get some sleep before reporting the next day.

The last pump from the city department was withdrawn at 11:30 p.m. A skeleton guard was left at the scene with the University's O.C.D. trailer. Throughout the night and most of the succeeding day there were brief flare-ups but each one was quickly extinguished.

Heavy Losses

The grim task of measuring the physical loss caused by the fire had begun during the evening. Preliminary estimates started at the rock bottom of $1,000,000. This, according to University Vice President Robert P. Briggs, would be the replacement cost for the building alone. Subsequent assays attempted to measure the value of the building plus its contents. These ran to a high of $3,500,000. But no monetary figure could begin to tell the whole story of the staggering loss to education as a whole.

History Professor Dwight Dunham, who had almost to be evicted bodily from his third floor office at the height of the fire, had lost all but a fraction of his original work on the southern anti-slavery movement. A manuscript on which he had been working and all the notes from which he was writing had been destroyed with the building. His research had taken fifteen years, and many of the pamphlets and letters he had collected were the only copies known to exist.

A great number of rare and original documents were also included in the 33-thousand volumes of the Bureau of Government Research Library. One of the nation's most noted research centers in its field, the library had been the source of vast information on municipal, state and federal government. Much of it is destroyed and librarians have spent several weeks trying to salvage the rest.

A few days before the fire, Professor Palmer Throop of the history department had completed a new text on the Italian Renaissance. The finished manuscript and the rare books on which he had based his research were destroyed.

Since 1934 members of the department of sociology had been working on a long-term social survey of a Michigan city. Within this single afternoon, every bit of work accumulated by the project was devoured by the flames.

Equally tragic was the loss of theses and dissertations suffered by a number of graduate students in sociology and history. Men and women, hoping to earn advanced degrees on the basis of original studies and investigations, saw their plans back months or even years.

Sidelights

What little humor could be found in the situation at Haven Hall focused upon the final exams that were under way at the time of the fire. Spectators at the blaze erupted with spontaneous boo-ing when volunteers inside the building began throwing out armloads of the blue examination booklets. This changed to wild cheers, however, when members of an opposing school of thought stood under the windows and threw the booklets back inside!

A thoroughly preocupied squad of journalism students drew a laugh when they sidled from the burning building; like protective parents, they had saved the one thing no true journalist would ever abandon . . . the departmental teletype machine.

At least one of the four hundred students taking examinations showed a remarkable spirit of determination. He marched out of Haven Hall, cleared himself a small space among the spectators, and proceeded to sit down and complete the exam. Later he spotted his professor roaming through the crowd and handed in the paper. No doubt distracted by this bit of normalcy amid the confusion, the professor glanced at his watch and announced that the student had taken a bit more than the allotted time. "But," he added, "I'll accept it . . . considering the circumstances."

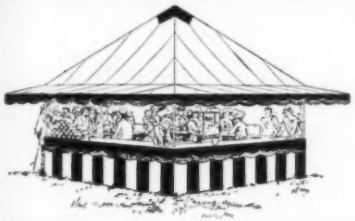
Zahn Takes Stock

In the six hours it required to stop the campus fire, the Ann Arbor department had used seven pieces of apparatus, laid 4,350 feet of hose and discharged 850-thousand gallons of water.

While the University surveyed its

TENTS

FOR CELEBRATIONS AND CARNIVALS



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TENTS — COVERS — AWNINGS

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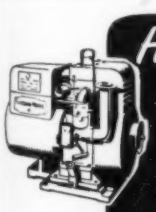

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losses, Chief Zahn and his staff returned to the station house and spent several uncomfortable hours reflecting on the broader problem of fire protection for the city as a whole. There was little here to give them much encouragement.

First, the basic twenty-two-man shift had proved itself woefully inadequate when confronted with a major conflagration. Cut down by vacations, illness and the need to leave men behind to cover other emergencies, Zahn had reached the campus with thirteen men. Even when the off-shift had been called into the fight and the force had climbed to 28 men, still insufficient. Only the weight of those scores of untrained volunteers had enabled Zahn to accomplish what he had in stopping the fire on the first floor.

Deficiencies in equipment had also been emphasized by the Haven Hall fire. When the blaze was at its height, an alarm had come in from a residence fire in another part of town. Assistant Chief Heller had answered this call with every bit of reserve apparatus in the department: the second high pressure truck, an O.C.D. 500 GPM pumper, and a 1924-vintage service ladder truck.

At this point there remained in the station house a few hand extinguishers, a couple of pump cans and several thousand feet of dry hose. One fireman stayed behind to answer the telephone. If anyone had been so unfortunate as to have had a third fire at that particular time, this man, no doubt, would have extended the city's official condolences. There was little else he could have done!

Chief Zahn himself issued a blunt warning to the city on June 7th, the day after the fire. "If there had been a second major fire at that same time," he told a reporter, "one of them would have gone untended!"

Less obvious to the general public was a weakness long felt by the Ann Arbor department: *centralization.*

At the time the present station was erected in 1882, eight per cent of the city's valuation lay within a radius of one mile. Today Ann Arbor has felt the same "explosive decentralization" of business and residential areas that has affected most cities in the nation. Some high-value areas are as much as two miles from the station, while a considerable amount of housing has been erected on the perimeter of the city, two to two and one half miles away.

While the need was not especially evident at Haven Hall, the professional fire-fighters are conscious of the advantages they could gain in speed alone by establishing sub-stations in different parts of the city.

The long range pessimistic view, which all firefighters must force themselves to accept, would lend further support to the goal of decentralization. Ann Arbor lies in a rich industrial region within forty miles of Detroit. If you can accept the premise of a third global conflict, with its nightmare of inter-continental bombings, atomic weapons and erratic rocket attacks, the city would be in line with the earliest assaults.

This is a thought not far from the minds of men who might someday be called upon to quench the resultant fires. Having all fire-fighting equipment in one building at such a time . . . however remote . . . could be more than risky. It could be catastrophic!

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pressing hazard that faces not Ann Arbor alone, but every college and university town in the country. Too often the ivy-covered walls of song and sentiment hide fire traps of vast potential danger.

Additional threats exist wherever "temporary" post-war buildings remain on college campuses. Originally designed for a maximum employment of two or three years, many of these have become an intrinsic part of the educational plant. The schools "couldn't get along without them."

Schools are crowded. The number of students entering higher education has not fallen off after the war in the manner it popularly had been expected to do. True, the ex-GI is vanishing, but his kid brother and sister are coming right along to take his place. Not long ago, one educator stated that the great peak of student enrollment would not be reached until the 1960s. At that time the first crop of "war babies" will be reaching college age.

That is one prime reason the colleges hold on tenaciously to every square foot of classroom space available. A further reason lies in the countless delays and steadily increasing cost of post-war building. Here the experience of the University of Colorado is typical: Trying to raise funds for a student activities building, the fund-raising scarcely keeps pace with the ever-increasing estimates on the cost of construction. During the time it takes to bring a dollar into the kitty, the price of materials and labor goes up a dollar and fifteen cents.

Faced by similar circumstances, few colleges are willing to sacrifice existing buildings . . . no matter the fire hazard they present.

Lack of Enforcement

Queerly enough, there is little that fire protection authorities can do about the situation. We haven't checked the law elsewhere, but Michigan fire laws cannot be enforced on a state-owned college or university. It seems probable that the situation is rather common.

In Michigan, the enforcement of fire laws comes under the jurisdiction of the State Police. Should any private place of business fail to abide by existing laws, the State Fire Marshal can promptly close its doors to the public. The owner can object and bring the issue to court, but

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he can seldom win. As Gertrude Stein might have said, "A hazard is a hazard." And the private individual can't get around it.

When enforcement is attempted by the State Police against another state agency, however, the system collapses. It is impossible for the state to successfully prosecute itself in court.

The Fire Marshal can urge, he can recommend, he can talk himself blue in the face . . . but he cannot *enforce*.

Haven Hall had been condemned by Arnold C. Renner, Chief of the Fire Bureau of the Michigan State Police. Renner had also condemned four other outworn and hazardous buildings on the University campus. The problem, figuratively, was dropped back in his own lap: Each year some 600 or more students would owe their education to the existence of these buildings. Would he, Renner, care to decide that these young men and women should not be educated? And then would he care to select the 600 and tell them to get out of school?

The buildings continued in use. One concession was made, however. Outdoor fire escapes were added. The idea for a sprinkler system (which might have saved Haven Hall) was turned down because the cost was not warranted in a building which had already outlived its usefulness.

Patently, the only solution is to obtain funds for modern fire-proof structures and replace these sentimental fire traps.

Yet when it comes to state-owned universities, their legislators are constantly pressed from all directions for funds far in excess of the amount brought in by taxation. The strain of an all-out building program not inconceivably could wreck state budgets from Maine to California.

Privately endowed institutions have comparable difficulties. Today there are few if any philanthropists of the sort that established colleges and universities in the last century. The would-be philanthropist is sucked dry by present day tax rates before he can accumulate enough money to dedicate a single room in his local hospital. The spirit, we feel, is willing, but the bank balance is weak.

No, as we indicated earlier, there isn't a simple, pat solution to the widespread fire hazard existing within our nation's colleges. If pressed for some sort of an answer, this correspondent could tender only a single recommendation: Let permanent signs be erected at each entrance of a hazardous structure on a college campus. Let these signs read, "Fire Hazard! This building is condemned; enter at your own risk."

We suspect it wouldn't be long 'till word got around. Students, parents, friends and alumni would set up such a howl as would provoke some decision very shortly.

Meanwhile, Chief Zahn and hundreds like him in college towns everywhere pray that nothing like Haven Hall will happen to them. Especially Zahn. There are four more big fires up there "on the hill" just waiting to happen, and everybody knows it.

The educators themselves are increasingly wary. Their pattern was set, perhaps by University of Michigan President Alexander G. Ruthven. Addressing a group of returning alumni three days after the Haven Hall fire, Ruthven limited his welcoming speech to eight words: "Have fun . . . but be careful with your matches!"

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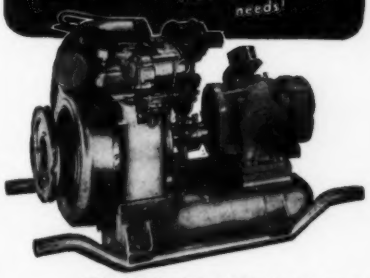

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